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Title:
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Listing first 45 summaries
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Pred. No. is the number of results predicted by chance to have a sense breater than or equal to the score of the result being printed, and is derived by analysis of the total acone distribution.

# SUMMARIES

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⊖9es91 marmota mon	11 Q9ES91	190		234	
£29085 sus scrota	5 029085	190	77.1	525	
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### ALIGNMENTS

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	Pfam; PF00143; interferon; 1.	DR
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	EMBL; M25460; AAC41702.1; -:	
	FAMILY.	CC
	! SIMILARITY, BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA	cc
	Philos. Trans. R. Soc. Lond., B. Biol. Sci. 200-20-38(1982).	
	expression in homologous and heterologous cells.";	
	"The human fibroblast and buman immune interferon genes and their	
	Content J.;	
	Cherysen B., Degrado W.M., Standards F., Taracchied J., Taya F.,	
	Piers W., Remaut E., Devos R., Cheroutre B., Catheras E.E.,	
	MEDLINE-83065590; PubMod 6183692;	
	SEQUENCE FROM N.A.	쮸.
	[1]	
	Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteloostomi,	
	Homo sapiens (Human).	08 E
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01-NOV 1996 (TrEMBLIGHT DIE Created)
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HSSP; P01574; [AU].
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Eukaryota: Metazoa: Chordata; Craniata; Vertebrata; Euteleosto
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
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Ptam; PF00143; interferon; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               187 AA;
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Pred. No. 2.4e 62;
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                                                                                                              SEQUENCE FROM N.A. Chung Y.G., Seidel G.E. Jr.; Chung Y.G., Seidel G.E. Jr.; "Cloning bowine interferon-tau genes and characterizing their transcriptional expression during early pregnancy."; Submitted (FER-2000) to the EMPL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                               01-MAR 2001 (Tremblre: 16, 01-MAR-2001 (Tremblre: 16, 01-DEC 2001 (Tremblre: 19,
                                                                                                                                                                                                                                                        NCBI_TaxID=9913;
InterPro; IPR000471; Interferon_abd
                          HSSP; P01563;
                                             EMBL; AF238613; AAG14170.1;
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Mammalia; Eutheria; Cetartiodaetyla; Ruminantia; Pecora; Bovoidea;
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EMBL; S41178; AAB22723.1; -.
HSSP; P01574; IAU1.
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Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  L MAYAALGALQASSNEQCQKLLWQLNGRLEYCLKDRMNFDIPEEIKQLQQFQKEUAALTIY 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MSYNVLPYQQPSSNLACQXLLGQLPCTPQYCLEDRMNFEVPEEIMQFPQFGKEEAVLIIH 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMIQQIFGILEPNESSTGWNETVIKTILVELDGQWDDLETILEEIMEKENFDEGD MIII 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     58.5%; Score 507.
Similarity 60.2%; Pred. No.
                                                                                                                                                                                                                                                                              Bovinae, Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          186 AA; 21878 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                       2HIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gobl A., Lindersson M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Interferon_abd; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Signal
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                                                                                                                                                                                                                                                                                                                                                                                                                  Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                       Last sequence update)
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SMART; SM00076; IFabd; 1.
PKASTIE; PS08252; INTERPERON_A_R_P: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Antiviral: Cytokine
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-NoV-1996 (TrEMBLrel. 01, Created)
01-NoV-1996 (TrEMBLrel. 01, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Oryctolagus cuniculus (Rabbit).
Eukarysta: Metarea: Chordata: Craniata: Vertebrata; Eufoleostomi:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ្មខ្មម្មវ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL: $68499. AAC60525.2: -
HSSP: P01563: 2HIE.
InterPro: IPR000471: Interferon_abd.
Priam: PP00143: interferon: 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDILNE-94132653; PubMed-8301151;
Charlier M., L'Haridon R., Boisnard M., Martal J., Gayo P.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Interferon-omega48.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SMART: SM00075: IFAbd; 1
proSITE: PS00252: INTERFEEON_A_R_D; 1
Act:::ral: Cytoking
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          J. Interferon Res. 13:313-322(1993)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Cloning and structural analysis of four genes encoding interteron-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID:9986
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             omega in rabbit.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               137 EYSHCAWTIVRVEILR 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -1- SIMILARITY: BELONOS TO THE INTERFERON ALPHA, BETA AND DELTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               158 EYSDCAWELIRVEMMR 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    y Match
Local Similarity 40.4%; Pred. No. 9.7e-16;
Local Similarity 50.4%; Mismatches 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19 KLLWULNGKE EYCLKBEMHEDIEBEIKOLQQFQKEDAALTIYEMIQNIFAIFRODSSS 76
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               39 BULAGMS BUSTUSTUSTED PREPARATION OF OKDOALSVEHEMECOCENTERERS 37
                                                                                                                                                                                                                                                                                                                                                                                    Y Match 30.1%; Score 261; DB 6; Length 195; Local Similarity 41.9%; Pred. No. 1.3e-15; hes 57; Conservative 21; Mismatches 58: Indels
172 RRAFSSTADLQESLRS 187
                                                                                                                        112 LHQQLQTETTI VQAMBEDSVLI ADSETIMIKEYEQPIPIYI DEKXHSOOAWEIVEMET 171
                                                               151 LENFYRINGLTGYLEN 166
                                                                                                                                                                                                                                                        52 CLEDERDEGEPREVVNGSGFÖKHQAVSVLHEMLQQIFNLLHTAHSSAAWNNTLLEELHAA 111
                                                                                                                                                                                                                                                                                                                        31 CLKDRMHFD:PFFFFQTQQFOKFDAALTIYEMLANTFATFRQDSSSTGWNETIVENLLAN 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FAMILY.
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                                                                                                                                                                                        VYHQINHLKTVLEEKLEKEDITEGALMGSLHLKPYYGTILHYLKAKEYSHCAWTTVRVEI 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  195 AA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  195 AA: 21981 MW; D4D2E3EF5134AE5F CRC64:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT:
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RESULT 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-NOV-1996 (ILEMBLiel. 01, Created)
01 NOV 1996 (TrEMBLiel. 01, Last sequence update)
01-DEC 2001 (TrEMBLiel. 19, Last annotation update)
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q28845;
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MEDILNE 94132651; PubMed 8301151;
Charlier M., L'Haridon R., Roisnard M., Martal J., Gaye P.;
"Clouing and structural analysis of four genes encoding interferon-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=9986;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Interferon-omega45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    omega in rabbit.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             smarr; smooo76; IFabd; 1
PROSITE, F380252; INTERFERON_A_B_D; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRINTS; PRO0266; INTERFERONAB.
ProDom; PD000550; Interferon_abd; I.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Antiviral; Cytokine.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR000471; Interferon_abd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -!- SIMILARITY: BELONGS TO THE INTERFERON ALPHA, HETA AND DELTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             J. Interferon Res. 13:313-322(1993)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01 DEC 2001 (TrEMBLrel. 19, Last annotation update)
                                                                                                                                                                                                                                                                                                                     Bukuryota: Metaava, Chardata, Crabiata: Vertebrata: Bitcheostomi:
Mammalia: Butheria: Cetartiodactyla: Ruminantia: Pecora: Novoidea:
Bovidae: Caprinac: Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                73982Ö
                        Whaley A.E., Carroli R.S., Hakawa K.; "Cloning and analysis of a gene encoding ovine interteron alpha-11."; Gene 106:281-282(1991).
-i- SIMILARITY: BELONGS TO THE INTERPERON ALPHA, BETA AND DELTA
                                                                                                                                                                                                                                                                                                                                                                                                                                Ovis aries (Sheep).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ovine interferon alpha precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q28562;
                                                                                                                                                                TISSUE=LIVER;
MEDLINE=92039090; PubMed=1937057;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AMY 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            112 LHQQLQGLETYLVQAMGEEDSVLTADSFTLMLKFYFGRIRLÝLTEKKHRSÐÁWELVRMET 171
                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                NCBI_Tax1D=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                172 RRAFSSIADLQESLRS 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   151 LEMFYKINKLTGYLKN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         31 CLEDMMHESTEKETKELGEGEGKEDAALTIYEMLENTEATEEORSSETGWNETIVENILAN 90
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                                                                                                                                      Matches
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                                                                                                                                                                                                                                                           SEQUENCE 195 AA: 22010 MW; 1
                                                                                                                                                                                                                                                                                                                                                   SMART: SM 0075: TEADD; T.
PROSTIE: PS00252: INTERFERON_A_B_D; T.
Antivital: Cytokine: Signit.
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HSSE: POI563: 2HIE.
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Liu L., Leaman D.W., Bixby J.A., Roberts R.M.;
"A type I orino intertero with limited similarity to IEN-alpha, IEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota: Metazoa: Chordata: Craniata: Vertebrata: Euteleostomi:
Mammalia: Eutheria: Cetartiodaetyla: Rominantia: Pecora: Boxeidea:
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of New Tees (TERMALTEL 0), Last sequence update)
of LaSt 2001 (TERMALTEL 1), Last annotation update)
interferon Type I precursor.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro: IPRoso471: Interferon_abd.
Plan: PFO0143: interferon: L
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52 OLKUPRDEGERREVVNOSGEGKNGTVSVLHEMLGGTENLLHTARSSAAMNNTLLEELHTA 110
                                                               00 NVT INAXI BANATASS SUČABI VBI NOTIMBA I LITOVI BANGANTA I BRADA DANMARATIO (18
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195 AA) 22006 MW;
                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Acta. Gene Struct. Expr. 1294;55-62(1996)
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                                                                                                                                                                 29.2%; Score 253;
40.4%; Pred. No.
                                                                                                                               21: Mismatches
                                                                                                                                                                    Pred. No. 5.8e-15
                                                                                                                                                                                                                                                                                                                              POTENTIAL
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                                                                                                                                                                                               DB 6: Length 195
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                                                                                                                                                               01-NOV-1996 (TERMELTEL 01, Freated)
01-NOV-1996 (TERMELTEL 01, Last sequence update)
01-DEC-2001 (TERMELTEL 19, Last annotation update)
Interferon omega44.
Eukaryota; Metazoa: Chordata: Craniata: Vertebrata: Enteleostomi: Memmalin: Entheria: Lajos:rpla: Leporidae, cryctolagas.
                                                                                                                                                                                                                                                                                                                                                                                                                                            Q28843
                                                                                                            oryctolagus cuniculus (Rabbit).
                                                                                                                                                                                                                                                                                                                                                                                        Q28843;
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Eukaryota: Metazoa; Chordata: Craniata: Vertebrata; Entelrostemi;
Mammalia; Entheria; Primates: Catarrhibi; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q14618
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01-NOV-1996 (TrEMBLrel: 01; Last seq
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               135 AKEYSHCAWIIVRVEILRNE 154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        112 THOGTOGRETOLAGAWGEETAANGTHANGATWATAANGTAANGTAANGT 1/1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             151 LENEYRINELEGYLEN 156
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        y Match 29.1%;
Local Similarity 38.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       78 GWNETTVENLLANVYHOTNHERTVENERERERENETPOALM SEERLERYVORLLEREE 184
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 b; Score 252.5; DR 4; Length
b; Fred. No. 7.2e 15;
30; Mismatches 47, Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Last sequence update)
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NCBI\_TaxID 9986;

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RESULT 11
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Hest Local Similarity 39.7%; Pred. No. 1e-14;
Matches 54; Conservative 22, Mismatches 66, Indels
                                                                    Mat ches
                                                                                           Query Match
Best Local
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01-NCV 1996 (TrEMBLrel. 01, Created)
01-NCV-1996 (TrEMBLrel. 01, Last seq
01-DEC-2001 (TrEMBLrel. 19, Last ann
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J. Interferon Res. 12-313-377(1963);
-!- SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; 868997; AAC60524.1; -. HSSP; P01563; 2HIE.
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"Charlier M., I'Haridon R., Bolsnard M., Martal J., Gaye P.,
"Cloning and structural analysis of four genes encoding interferon-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
MEDITAR 94182682: PubMed-9221101.
Charlier M., L'Haridon R., Boismard M., Martal J., Gaye P.,
"Obsein in 1 frephical Boil, Ala 36 four jours was did in interior."
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Oryctolaque emfeulus (Bulbit).
Oryctolaque emfeulus (Bulbit).
Oryctolaque emfeulus (Bulbit).
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                                                                                                                                                                                      Antiviral: Cytokine.
SEQUENCE 195 AA;
                                                                                                                                                                                                                                             protem: PD000550; Interferon_abd; 1.
smart; sm00076; IFabd; 1.
prostite: ps00252; interferon_a_B_D; 1.
                                                                                                                                                                                                                                                                                                           Ptam; PF00143; interferon; 1.
PRINTS; PR00266; INTERFERONAB
Profom: PD000550; Interferon_s
                                                                                                                                                                                                                                                                                                                                                                                                                                       HSSP: P01563;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL: $69129; AAC60523.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   J. Interferon Pes. 13:313-322(1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID-9986;
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                                                                                                                                                                                                                                                                                                                                                                                                             InterPro: IPR000471; Interferon_abd
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          151 TENEVELNELTSYLEN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               91 VYHQIMHIKTVIFEKIEKEFETE9AIMSSIHIKEYYGEILHYLKAKEYHHZAWIIVEVEI 170
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA
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PURPENNEL LIFE TREE LEES LEES LA FOLL FORMENTE ALL FERESS TOWNET IVENE LAN. 90
                                                                 55; Congarity 40.5
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                                                                                                                                                                                         22067 MW; 7F4E6F674591404B CRC64;
                                                          29.0%; Score 251; DI
40.4%; Fred. No. le (
+) o 20; Mismotobes
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Best Local Similarity 38.0
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"The cleated, sequencing of the primary coli Chinese human IFN-W1 gene.":
Sei. China F. 0:0-0(0).
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01-NOV-1996 (TREMBLREI, 01, Last sequence update)
01-DEC-2001 (TREMBLREI, 19, Last annotation update)
Interferon omega-1 (Fragment).
                                              01-DEC-2001 (FREMBLICE: 19, Created)
01 DEC-2001 (TREMBLICE: 19, Last sequence apdate)
01-MAR-2002 (TREMBLICE: 20, Last annotation update)
                                                                                                                                                                                                   Q95J78;
                                                                                                                                                                                                                                                  Q95J78
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PS001ED; INTERPEROR_A_P_D; 1.
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SMART; SM00076; IFabd; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterFro, IFR000471, Interferon_abd. Pfam: PF00143; interferon; 1. FRN1HT3, FR00256, INTERFERONAB.
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Mammalia: Eutheria: Primates; Catarrhini; Hominidae: Homo.
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interferon-alpha precursor
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            91 VYHQINHI,KTVI.SEKI,SKENESESOALMSSI.HI,KBYYODFI HYI KAKEYEWOMETUKVEI 150
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38.0%; Pred. No. 1.1e-14;
"Milling (2): Mismatches 51; Indote
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                                                                                                    SEQUENCE:
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Problem: Removisor Interferon and 1.
PROSTIE: E800252 INTERFERON A R D: UNKNOWN_1.
Antipital: "YEskings Stand).
                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Foreign A., Antidistrible L., STELDETTO St., Falomb. F., Itabadi C., "Recombinant extra top tomarin interferon: a new tool for a primate beautitis model."
Submitted (ST 1999) to the EMMI/Genbank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of DEC 2001 (TEMBLICE, 19, Created)
of DEC 2001 (TEMBLICE, 19, Last sequence update)
of MAK 2002 (TEMBLICE, 20, Last annotation update)
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Eukaryota: Motasoa: Chardata: Craniata; Vertebrata; Enteleostomi;
Mammacha: Butberia: Primates: Platyrchini; Callitrichidae: Saquinus
Motas (Carlo)
                                                                                                                                    NIVIL
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Bukaryota: Metazoa: Chordata: Cidniata: Vertebrata: Euteteostomi;
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Profon: PD00050; Interferon_abd: 1.
PF0511E: P500252: INTERFERON_A_B_D: UNKNOWN_1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   144 I LVRVEILKNEYRINKLTGYLKN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        52 CLKORKDERENGERETAINGEGNARATEVIHEMOQQIENCESIKOSSAAMDEDLIDEREKTE 111
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Similarity 37.8%; Pred. No. 1.2e 14;
54; Conservative 24; Mismatches 51; Indels 14; Caps
                                                                                                    189 AA;
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37.8%;
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Score 250; DB 6;
Pred. No. 1.2e-14
                                                                                                                                                                   POTENTIAL
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Best Local Similarity
Matches 53; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Cloning bovine interferon tau genes and characterizing their transcriptional expression during early prognamey."; Submitted (PER-2000) to the EMR /Combank/DDRJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A. Ching Y.G., Seidel G.E. Jr.;
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01-MAR-2001 (TrEMBLIEL 16, Last sequence update)
01-DEC-2001 (TrEMBLIEL 19, Last annotation updat
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Pfam; PF00143; interferon; 1.
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Search completed: May 6, 2003, 09:54:40 Job time: 53 secs

OM protein - protein search, using sw model GenCore version 5.1.4\_p5\_4578 Copyright (c) 1994 - 2003 Compugen Ltd.

Title: US-09-832-658A-26
Perfect score: 867
Sequence: 1 MAYAALGALGASSHE

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May 6, 2003, 09:49:03 : Search time 8 Seconds (without alignments) 860.634 Million cell updates/sec

Scoring table: BLOSUM62 dapop 10.0 , Gapext 0.5

Searched. 112892 seqs. 41475328 residues

Total number of hits satisfying chosen parameters:

Post-processing: Minimum Match 0% Mayimum Match 100% Listing first 45 summaries

Database : SwissProt\_40:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal is the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

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Ϋ́	Najarian R., Goe	addel D.V.:	one lacks i	ntrons.";
P. 2	Nucleic Acids Res. 9:1045-1052(1981).	s. 9:1045-1052		
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<u> </u>	Gene 10:11-15(19	980).		
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K X X	Gooddel D.V., Shop	Shepard H.M., Yelverton	dverton E	, Leung D., Crea R., Sloma A.
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From Natl. Acad. Sci. U.S.A. 94 (11818 | 11818 (1977).
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Shepard H.M., Leuna D., Stebbing N., Goeddel D.V.,
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V00547; CAA23808.1;
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    Stewart A.C., Dood S.M., Febago J.S., Eaton M.A.W.
    Patel T.P., Lewis H.M., Porter A.G., Birch J.R.,

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DISULFID
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                                                            CHAIN
                                                                                                            SIGNAL
                                                                                                                                                                   Cytokine; Antiviral; Glycoprotein; Siqual.
                                                                                                                                                                                                                               PROSITE: PS00252; INTERFERON A B D: 1
                                                                                                                                                                                                                                                                                           ProDom; PD000550; Interferon_abd; 1 SMART; SM00076; IFabd; 1.
                                                                                                                                                                                                                                                                                                                                                                                                  PRINTS: PR00266; INTERFERONAH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ptam; PF00143; interferon;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HSSP; P01574; 1AU1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       modified and this statement is not removed.
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%if the liter, the lime, highly dish databases
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SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; [PR000471; Interferon_abd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; AB021707; BAA93629.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    or send an email to license isb sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          entities requires a license agreement (see http://www
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
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16-00T-2001 (Rel. 40, Last sequence update)
15-00N-2002 (Rel. 41, Last annotation update)
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| HEH HELLI 
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22. MSYNELDERGESSNEGSGER MEG NASHESSE STERMALD FEBRUAR FOR STERMALLER FOR STERMALLER FOR STERMALLER FOR STERMAL FO
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                                                                                                                                                                                                                                                                                                                                                                                                                             use by non-profit institute. There are no restrictions on its modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.ich.spb.ch/announce/or send an email to licensedish sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INB_HORSE STANDARD: PRT; 186 AA. p05012; p05012; l3-AUG-1987 (Rel. 05, Created) l3-AUG-1987 (Pol. 05, Last sequence update) l5-JUN-2002 (Pol. 41, Last annotation update) interferon beta precursor (IFN-beta).
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                                                                                                                                                                                                                                                 PIR; G24912; IVHOBI.
RISSP; P01574; IAGI.
Interfers: IFR800471: Interferon_akd.
Plan; PF00144; Interferon: 1.
PRINTS: PR00265; INTERFERONAB.
PTODOM: PD000550; Interferon_abd; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PET Folly is regulable It is placed through a childeralic between the Swiss institute of Highton transitions and the EMBL outstation the European Bioinformatics institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDIENE 97053170, EmbMed 3010399,
Himmler A., Hauptmann R., Aloli G.R., Swoily P.,
"Molecular cloning and expression in Escherichia coli of equine type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota, Matazoa, Obordata, Craniata, Vertebrata; Eutoleostomi;
Mammalia; Eutheria; Perissodaetyla; Equidae; Equus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CARBCHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA 5:445-356(1986).
-!- FUNCTION: HAS ANTIVIRAL, ANTIRACTERIAL AND ANTICANCER ACTIVITIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Equus caballus (Horse).
Eukaryota, Metazoa, Ch
                                                                                       OLEMPIA DI STOR
                                                                                                                 NIVHU
                                                                                                                                           SIGNAL
                                                                                                                                                                   PROSITE: PSOCCED, IN
                                                                                                                                                                                                                          SMART; SM00076; IFabd; 1
                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; M11516; AAA10951.1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 interferons."
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                                                          CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -!- SUBCELLULAR LOCATION: Secreted.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22 VSYKLLGFQLRSSSLECQELLVNLNRTSKYCLKDRMNFEVPEEIKKSQRFQKEEAILVIN 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MAYAACOACOASSAEOOORCOWOLAGEEYOLKORMARTCEPERIKOLOGEGEEGAACETY 60
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        186 AA;
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101 N
131 N
136 N
126 NW:
                                                                                                                                                             INTERFERCH_A_B_C, 1.
al, Gl,:oprottin, Signal.
                                                                                                                                                                                                                                              Interferon_abd; 1.
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186
161
        21882 MW;
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25C359B1808AC862 CRC64;
                             INTERFERON BEITA.

BY SIMILARITY.

N-LINKED (GLCNAC...) (POTENTIAL).

N-LINKED (GLCNAC...) (POTENTIAL).
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មានកាលក្រុម 40,
        AE9F3ADFC006EE6C CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 53.5%; Score 464.5; DB 1; Lendth Bost Local Similarity 57.9%; Fred. No. 1.5e-32; Matches 95; Conservative 25; Mismatches 44; Indels
       Best Local Similarity
Matches 90, Conserv
                                                                                                                              Query Match
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CAEBCHYD
CAEBCHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS PROT entry is copyright, it is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics lustitute. There are no cratricitous on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Issue by and for commercial cutilities teplities a line of process. If the Property of the Diff. (*** Teplities a line of process.)
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PUNCTION. BAS ARTIVISAL, ARTHRATERIAL ARTHRADOR ARTHRADOR ARTHRADOR.

        Cytekine:
        Glycopretoin:
        Artiviral:
        Midilional traily:

        SIGNAL
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        21

        CHAIR
        22
        186
        INTERFERON BETA-2.

        DISQUED
        52
        161
        PROBABLE.

        CAREGRED
        131
        133
        X LIMED:
        (CLUMA)...)

        CAREGRED
        173
        173
        X LIMED:
        (CLUMA)...)

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Pfam; PF00143; Interferon; 1.
PRINTS, FE00256, INTERTECHAR
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"The structure and besterial expression of three distinct having interferon-beta genes.";
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Mammalia: Eutheria: CetartioJactyla: Ruminantia: Pecera: Neveoidea:
Bovidae: Bovinae: Bos.
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21-JUL-1986 (Ref. 01, Last sequence update)
15-JUN-2002 (Ref. 41, Tast annotation update)
                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SMART: SM00076; IFabd: 1.
PROSITE: PR00252: INTERPERON_A_B_D: 1.
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                                                                                                                                                                                                                                                                    22319 MW; D9F257C6E3250480 CR664;
53.1%; Score 460.5; DB 1
54.9%; Pred. No. 2.9e-32;
tive 31; Mismatches 42
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Ptam: PEROU44: interferon: 1.
PRINTS: PROU266: INTERFERONAR.
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                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                 Cytokine; Glycoprotein; Antiviral; Multigene family; Signal.
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! FUNCTION: HAS ANTIVIKAL, ANTIHACTERIAL AND ANTICANCER ACTIVITIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The structure and bacterial expression of three distinct bovine interferon beta genes.":
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Mammalia: Eutheria: Cetartiodaetyla: Ruminantia: Peeora: Bovoidea;
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21 JUL 1986 (Bel. 01, last sequence update)
15 JUN 2002 (Bel. 41, last annotation update)
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62 MIQNIFALFRODSSSTOWNFLIVENILLANVYHOINHLKTVLEEKLEKEDFTROALMSSIH 121
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                                 ZA SYSILKEGGRRSAEVAGRIJSGEHSTEGHTLEAKMDEGVEEEMNGAGGERKEDAILVIYE 82
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                                                                                                                                                                                    THE AA;
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                                                                                                                        49.2%; Score 426.5;
58.3%; Pred. No. 2...
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                                                                                                                                                                                                                                                PRINTS; PRO0266; INTERFERONAB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             interferon-beta genes.";
Biotechnology 2:458:464(1984).
-1- FURCTION. HAS ARTIVIKAL, ANTIRATIERIAL AND ANTICANTER ACTIVITIES
                                                                                                                                                                              SIGNAL
                                                                                                                                                                                            Cytokine;
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HGUF, 201574; 1A01.
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P01578;
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15-JUN-2002 (Rel. 41, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               *!- SUBCELLULAR LOCATION: Secreted
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24 SYSTERFOOR SEKECURELOULES ESON LEARMIR OMPERMROROGECKEN ATT MAYE. R.
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                        2 AYAALGALQASSNEQQKILLWQLNGKLEYCLKDERMNEDTPEETKQLQQEQKEDAALITYE 61
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                                                                       Similarity
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                                                                                                              186 AA;
                                                          Conservative
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131
173
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                                                                                                            22195 MW: F9060007EA415B9C CRC64;
                                                                      48.5%;
                                                                                 47.1%; Score 408.5;
                                                         47: Mismatches
                                                                      Pred. No. 7.2e 28;
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N-LINKED (GLENAC:
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MEDIAD-83263735; PubMed 2726460;
Kuda I., Bujita I., Taniquebi II.)
"Nucleotide sequence of the mouse interteron beta gene.",
Nucleic Acids Res. 17:3291-3291(1939).
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Taniquohi I.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus (Mouse)
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21-JUL-1986 (Rel. 01, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Interferon beta precursor (IFN beta).
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                                                                                                                             x̄-kay ckysTalloGraffy (2.15 ANGSTROMS).
MEDILINE-96028219; PubMed 7473712;
Senda T., Saitoh S.-I., Mitsui Y.;
Refined crystal structure of recombinant murine interferon-beta
"Refined crystal structure of recombinant murine interferon-beta
2.15-A resolution.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Structure and characterization of a murine chromosomal fragment containing the interferon beta gene.", J. Mol. Riol 204:221-231(1988).
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Nakamura K.T., Mitsui Y.;
"Throng-dimenti
                                                                                                                                                                                                                                                                                                   X-RAY CRYSTALLOGRAPHY (2.6 ANGSTROMS). MEDLINE-92371425, FubMed 1505514, Senda T. Shimazu T., Matsuda S., Kawa
                                                                                                                                                                                                                                                                                                                                                                                                                     X-RAY CRYSTALLOGRAPHY (2.75 ANGSTROMS). Senda F., Matsuda S., Kurihara H., Naka
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Purification and carbohydrate structure of natural murine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDIINE:88196115; PubMed-3360010;
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                                                                                              J. MOI. BIOI. 253:187 207(1955).
-!- FUNCTION: HAS ANTIVIRAL, ANTIMACTERIAL AND ANTICANCER ACTIVITIES
                                                                                                                                                                                                                                                      beta.
                                                                                                                                                                                                                                                                                                                                                                   "Three-dimensional structure of recombinant murine interferon-beta.": Proc. Tps. Acad. B. Phys. Riol. Sci. 66-77-80(1990).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    interteron-beta.
                                          -!- SUBSELLULAR LOCATION: Secreted.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eur. J. Biochem. 173:311-316(1988).
                                -!- SIMILARITY: BELONGS TO THE INTERPERON ALPHA, BETA AND DELTA
                                                                                  -!- SUBUNIT: MONOMER.
                                                                                                                                                                                                                                                                   "Three-dimensional crystal structure of recombinant murine interferon-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Biol. Chem. 258.9522 3523(1983).
                FAMILY.
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MGD: MGI:107657; Ifnb
                                                                                                                                                                                                                                                                                              01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Pel. 35, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Interferon beta precursor (IFN-beta).
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SMART; SM00076; IFabd; I
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                                                Yekeyama S., Ghishi N., Shamoto M., Watinabe V., Vari K.; "Rollation and expression of rat interferon beta arche and growth-inhibitory effect of its expression on rat qlioma cells."; Biochem. Blophys. Res. Commun. 242:698-701(1997).

-i- FUNCTION INS ARTIVIRAL, ARTIBACTERIAL ARE ARTICANTER ACTIVITIES.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pfam; PF00143; interferon;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro: IPR000471; Interferon_abd.
-:- SUBUNIT: MONOMER (BY SIMILARITY).
-:- SUBCELLULAR LOCATION: Secreted.
-:- PIM: THIS BETA INTERFERON DOES NOT HAVE A DISULPIDE BOND
                                                                                                                                    STRAIN Wistar; TISSUE Liver: MEDLINE-97271387; PubMed 9126338;
                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                             Mammalia; Eutheria; Rodentia; Sciuroqnathi; Muridae; Muribae;
                                                                                                                                                                                                                                            Rattus norveqious (Rat).
Eukarysta; Motaroa; Ohor
                                                                                                                                                                                                                                                                                                                                                                P70499;
                                                                                                                                                                                                           NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                 IFNB.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      144 EVQEYLELMETNSYAWHVVFAFIFFHFF IIBBITEMFQN 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       128 RILHYLKAKEYSHCAWTIVEVEILENEYEINKLIGYLEN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      38.4%;
Local Similarity 48.4%;
bcs 77; Conservation
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9 LONSONE-COOKLINGINGER EVOLKERMAINTRIPERKOLOGROMERIAALTIVEMLONIE 67
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Pred, No. 1.7e-21;
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N LINKED (GLENAC. . .).
N LINKED (GLENAC. . .).
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Best Local :
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the European Bioinformatics Institute. There are no restrictions on use by non-profit institutions as long as its content is in no modified and this statement is not removed. Usage by and tor commer
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                                                                                                                                                                                                                                                                                            INA 5:345 356(1985)
                                                                                                                                                                                                                                                                                                                                                                                   MEDIINE 8705 0170; PubMed-3022999;
Himmeler A., Hauptmann R., Adolf G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bikaryota: Metazaz: Chendata: Chaniata: Vertebrata: Euteleostomi;
Mammalia: Butheria: Perissodactyla: Equidae: Equus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Equus cabillus (Horse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         H-AUG 1997 (Ref. 95, Created)
LEAUG 1997 (Ref. 95, Last sequence update)
15 JUN 2002 (Ref. 41, Last annotation update)
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Planc PF00143; Interferon: 1.
                                                                                                                                                                                                                                                                                                                                                     "Molecular cloning and expression in Escherichia coli of equine type
                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE OF 167 195 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Interferon omega 2 precursor (Interferon alpha-II-2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SECTENCE.
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                                                                                                                                                                                                                         SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA
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N LINKED (GLONAC. .) (POTENTIAL).
N LINKED (GLONAC. .) (POTENTIAL).
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                  P05001;
13 AUG 1987 (Rel. 05, created)
13-AUG-1987 (Rel. 05, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
             EMBL: A15991
PIR: E24912;
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                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMHL outstation
                                                                                                                                                                                                                                   DNA 5:345-356(1986).
-+- SUBCELLULAR LOCATION: Secreted
                                                                          or send an email to license isb-sib.ch).
                                                                                                                                                                                                                                                                                   Himmler A., Hauptmann R., Adolf G.R., Swetly P.: "Molecular cloning and expression in Escherichia coli of equine type
                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                 Equus caballus (Horse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
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                                                                                                                                        the European Bioinformatics Institute. There are no restrictions on
                                                                                                                                                                                                                                                                                                                      MEDLINE-87053170; PubMed-3022999;
                                                                                                                                                                                                                                                                                                                                                                     NCB1_TaxID=9796;
                                                                                                                                                                                                                                                                                                                                                                                   Mammalia; Eutheria; Perissodaetyla; Equidae; Equus
                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                 Interteron omega:1 precursor (Interteron alpha II-I).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Cytokine; Glycoprotein; Antiviral; Multigene tamily; Signa).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ptam; Prú0143; interferon;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR000471; Interteron_abd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PIR; F24912; IVHO22.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            or send an email to licensewish sib.ch).
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                                                                                                                                                                                                                         -1- SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HSSP; P01563; 2HIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; A16557; CAA01293.1; ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; M14545; AAA30949.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              112 ILLKÖLEDIGTGLEGEMGEEESALG VKKILAVKKI KGIHIXLKEKKYSIKAWEIVKMEI [7]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 172 MRSFSSSANLOGRER 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              151 LRNFYRINRLTGYLR 165
                                                                                                                                                                                                                                                                         interferons."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            91 VYHQINHIKIVLEEKLEKEDEIKGALMSSIJHIKKYYGKILJIYIJKAKEYSHCAWIIVKVEI 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         52 CLKDRKDFREPQDMADSRQFPEAQAASVLHEMIQQIESLFHTERSSAAWNITLLDED TG 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         31 CLKBRNUTHTEEIKOLOOFIOKIBAALIIYUMLONIFAIFEODSSSTRUUHTIVENILLAN 90
                                             M14544: AAA30955.1;
P01563;
                              A15991; CAA01259.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
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               TVHo21
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          41.5%;
                                                                                                                                                                                                                                                                                                                                                                                                  Chordata; Craniata; Vertebrata; Enteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         221 (1 MW.
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                                                                                                                                                                                                                                           Martal J.L., Chemo N.M., Huynh L.P., L'Haridon R.M., Reinaud P.B. Guillewet M.W., Charlier M.A., Charpinny S.Y.;
TIFN: au a novel subtype I IFNI Structural characteristics, non-ed-quitous expression, structure-function relationships, a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30-MAY-2000 (Rel 39 Last sequence applate)
30-MAY-2000 (Rel. 39, Last annotation update)
Interferon tau precursor (IFN tau) (Trophoblast protein-1) (TP-1)
(Trophoblastin) (Antiluteolysin) (Trophoblast antiluteolytic protein).
                                                                                                                                                                             Biochimie 80:755:777(1998)
                                                                                                                                                                                                            presumancy hormonal embryonic signal and cross-species therapeutic potentialities.";
                                                                                                                                                                                                                                                                                                                      MEDITINE - 43081096: PubMed 9865498;
                                                                                                                                                                                                                                                                                                                                                                                             claphus.
                                                                                                                                                                                                                                                                                                                                                                                                       "Production of interferon by the conceptus in red deer Cervus
                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
MEDITNE 99273269: PubMed 10341723;
Demmers K 1 . Kalue S - Dearin D W
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID 9860;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota: Metazoa; Chordata; Craniata; Vertebrata; Enteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cervis elaphis (Red deer)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cervidae: Perminae: Cervis
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 52 CLKHRTDFRFPORDI IMPGEPFAQATINI QEMI QOLVSI PHTFPSSAAKNITTILIDRILLAG 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  31 CLKDRMNEDIPEFIKOLOGOGYFDANITIYEM QUITAIFEQESSSTOWHETIVEHLLAN 90
                                                                                                                                                                                                                                                                                                                                                                            Reprod. Fertil. 115:59-65(1999).
FUNCTION OF PARACKINE HORMONE ERIMARLY RESPONSIBLE FOR MATERNAL RECEPTORS, INTERACTS WITH ENDOMETRIAL RECEPTORS, RECEPTORS, AND BLOCKS STRAGEN RECEPTOR FROBABLY TYPE I INTERESON RECEPTOR, AND BLOCKS STRAGEN RECEPTOR FROBABLY TYPE INTEREST OF THE PSTROGEN INDUCED INCERASE IN CXYTOCIN RECEPTOR EXPRESSION IN THE ENDOMETRIAL RELEASE OF THE LUTBOLYTIC HORMONE PROSIDALANDIN F2-ALPHA, HINDERING THE EXCRESSION OF THE CORPUS LUTBOL AND THE PROBESSION OF THE CORPUS LUTBOLY AND A POSSIBLE DIRECT EFFECT OF TEN-TAU ON PROSIDALANDIN F2-ALPHA, HINDERING THE EXCRESSION OF THE CORPUS LUTBON (LUTBOLYSIS) AND THEREFORE A RITHOR TO CONTINUED OVARIANT FROSIDALANDIN SYNTHESIS, LEADS IN TURN TO CONTINUED OVARIANT CONTINUED OVARIANT CYCLICITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PSOUZSZ: INTERFERON_A K_DO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (Rel. 39, Created)
(Rel. 39 Last sequence update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
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21882 MW·
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 270; DB 1; I
Pred. No. 3.8e-16;
" M'smatches 53;
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BY SIMILARITY.
BY SIMILARITY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               195 AA
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PRIVINGENIA ORDERS IN TAU CERY SHORT FER ON EARLY PRESSANCY.

HENOMERA CRIES IN THE ROHEART AND SEARCH AND HAVE CHITHMED TO DUDLICATE EMPERATION IN SECRETAL AND HAVE CHITHMED TO DUDLICATE EMPERATION IN SECRETAL HARD SECRETORS OF THE ROMINANTIA. THEY EMOCODE FOR PROTECTING VIEW SIMILAR IN SECRETOR OF EXPRESSION.

SIMILARLY RELOADS TO THE INTERFERON ALPHA, HELA AND DELIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROSITE: PS00252; INTERFER N_A_B_D; 1.
Prognamoy: Cytokine: Hormone: Antivital: Signal.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL: AJ000638: CAA04193.1: HSSP; P01563; 2H1E.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro: IPR000471; Inter:eron.
29 SEGREBANG MENTANTAN NEW PART OF CONTRACTOR OF THE CONTRACTOR OF
                                                                                                          19 KILWOINGPL - EYCLKDPMNEDIPEEIKQLQQFQKEDAALTIYEMIQNIFAIFFQDSSS 76
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUBCELLULAR LOCATION: SERRIED INTO THE CHIRCHE LUMEN
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                                                                                                                                                                                                                                Conservative
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                                                                                                                                                                                                                                                                                     30.4%; Store 264.5, DB-1; 38.9%; Bred. No. 1.4e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           22075 MW;
                                                                                                                                                                                                                                32: Mismatches
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RESULT 12
INOL_HUMAN STANDARD: PR1: 135 AA.

1D INOL_HUMAN STANDARD: PR1: 135 AA.

AC POSSOD:
DI RAUG:1987 (Rel. 05, Created)
DI RAUG:1987 (Rel. 26, Last sempence update)
DI 15-JUN-2002 (Rel. 41, Last annotation update)
DE Intexteron omega-1 produsor (Interferon alpha-1i !).
DE Intexteron omega-1 produsor (Interferon alpha-1i !).
ON FINAL
ON HOMO Sapious (Human).
ON Mammalia: Entheria: Primates: Catarrhini: Hominidae: Homo.
ON Mammalia: Entheria: Primates: Catarrhini: Hominidae: Homo.
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98 AAMDTTLLEGLETGLEGGLEDILGGCLOGVMCKESSILLEMGETLIVEKKEGGCHIVYLGEK 187

TOWNETIVENILLANVYHOLINHLETVLEEELEKEI FIRGALMSSIHLKEYYTEILHYLKAK 136

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MEDILINE WISDOOMS FURMAND (898159)
Haugelmann E. Swerly P.:
"A nozel class of buman type I interferons.";
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                                                                                                                                                                                  PROSTIES PSOCISES INTERFERON A_R D;
                                                                                                                                                                                                                        PRINTS: PROUZSE; in
                                                                                                                                                                                                                                                                    MIM: 147553;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Human interferon omega 1: isolation of the gene, expression in
Chinese bamster ovary cells and characterization of the recombinant
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE OF N TERMINUS, AND CARBOHYDRATE-LINKAGE SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nucleic Acids Res. 13:4739 4749(1985)
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                                                                       1, 01 TANO.
                                                                                                                                                         SIGNAL
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    becal Similarity 38.
West (3) Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180 alternative clearage sites for the signal peptidase.";
Riol. Chem. 265:9290-9295(1990).
SDRCELLHAR LOCATION: Secreted.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA
                                                                                                                                                                                                                                                                                                                         814658; 814658;
816174; 816174;
                                                                                                                                                                                                                                                                                                                                                     TRUBAL CSRTEZE
                                                                                                                                                                                                                                        Proof43; interferon;
                                                                                                                                                                                                                                                                                                                                                                  X42669; ('AA26501,1);
A12140; ('AA01011,1);
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                                                                                                                                                                                                                                                                                                                                                                                              X'SHELL
                                                                                                                                                                                                 SMOODE/6: IFabd: 1
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                                                                                                                                                                     Olymprotein; Antivital; Multipene tamily; Signal.
                                                          145 VV:
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12
191
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                                                                                                152
                                                                       5.6.1
                 3H. 74;
                                                          22119 MW:
                              24.68;
Score 257; Db ...
Trad No. 4.8e-15;
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/FTId CAR_000050;
G FE (IN REF. );
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InterPro; IPR000471; Interteron_abd.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      modified and this statement is not removed. Usage by and for exposedal entities requires a license agreement (See http://www.lst.sl. 2/1000.00)
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MEDLINE=85187974; PubMed=2985969;
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01-APR-1988 (Rel. 07, Created)
01-APR-1988 (Rel. 07, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
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Mammalia; Entheria; Cetartiodaetyla; Ruminantia; Pecora; Bovoideo
SEQUENCE
                                                                                                                                                       CHAIN
                                                                                                                                                                                                             SIGNAL
                                                                                                                                                                                                                                                   Cytokine; Antiviral; Multigene family; Signal.
                                                                                                                                                                                                                                                                                                              PROSITE;
                                                                                                                                                                                                                                                                                                                                                                    SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                Probom; PD000550;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam; PF00143; interferon;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          112 LEQQUQUEETOLLQ - VVCENESA/ALISSPALLLERY FO/TERVYLKEKKYSE/TAMEVVEME 12-1
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                                                                                                                                                                                                                                                                                                                                                    SM00076; IFabd;
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                                                                                                                                                                                                                                                                                                    PS00252; INTERFERON_A_B_D; 1
195 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                          Interferon_abd; I.
                                                                                                                                                  195
21980 MWJ
                                                BY SIMILARITY
                                                                                                                                                       INTERFERON OMEGA-1
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TBCSTD4BCABB2A1S CRC64;
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Best Local Similarity

29.5**%**;

Score 255.5; DR 1 Fred. No. 6.5e-15;

DB 1: Length 195:

Query Match

9 달

Matches

57; Conservative

14 KII WOLNORD -- EYCLKDRMNFDIPEEI KOLOOFOKEDAALTIYEMLONIFAIFRODSSS 76

40: Mismatches

59; Indels

3; Gaps

39 RILLGOMR-RISPRECLOORKDEAFPOEMVEVSQEVEAQAISVLHEMI.GOSENLFHKERSS 97

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9

137 EYSHCAWTTVRVEILRNEYRINRLTGYLR 165

98 AAWDTTLLEQILIGI.HQQLDDLDACLGLIJIGEEDSALGRIGPTLAMKRYFQGTHVYLQEK 157

TGWNETIVENULANVYHQINHLKTVLEEKLEKEDFTRGALMSSLHLKRYYGRILHYLKAK 136

158 GYSDCAWEIVRLEIMRSLSSSTSLØERLR 186

LIORSE

INA1\_HORSE

STANDARD;

184 AA

14-Aug-1987 (Rel. 05, Created) 13-Aug-1987 (Rel. 05, Last sequence update) 15-JUN-2002 (Rel. 41, Last annotation update) Interteron alpha-1 procursor.

Eukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Equus caballus (Horse)

Mammalia: Eutheria: Perissodaetyla: Equidae: Equus

NCH1\_TuxID=9796;

MFD[1NE-87053170; PubMed=3022999;

SEQUENCE FROM N.A.

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8
112 LÝQQLTELEACLSUEVGVEETPLMHEDSSALAN ERŤFORÍ ACYNORIAETŠI CÁMETVRART 171
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or send an email to licensedisb-sib.ch).
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QY
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Himmler A., Hauptmann R., Adolf G.R., Swerly P.;
"Molecular cloning and expression in Escherichia coli of equine type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mammalia: Butheria: Perissodactyla: Equidae: Dynus-
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13-AUG-1987 (Rel. 05, Created)
13-AUG-1987 (Rel. 05, Last seq
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way most tried and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.lsn.sib.ch/annoiner/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA 5:345-356(1986)
                                                                                                                                                                                                                                                                                                                                                                                                                               PIR: C24912; IVHOA3.
                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; A16555; CAA01292.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL: M14542; ANA30951.1;
                                                                                                                                                                                                                    SEQUENCE
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Cytokine; Antiviral; Multique lamily; Signal.
                                                                                                                                                                                                                                                                                                                                    SMART; SM00076;
                                                                                                                                                                                                                                                                                                                                                     Probom;
                                                                                                                                                                                                                                                                                                                                                                 PRINTS; PROUZOG,
                                                                                                                                                                                                                                                                                                                                                                                 Pfam; PF00143; interferon;
                                                                                                                                                                                                                                                                                                                                                                                                  InterPio;
                                                                                                                                                                                                                                                                                                                                                                                                                HSSP; P01563; 2HIE
                                                                                                                                                                                                                                        DISULFID
                                                                                                                                                                                                                                                       DISTRIB
                                                                                                                                                                                                                                                                         CHAIN
                                                                                                                                                                                                                                                                                     SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             interferons.";
                             FURCTION: PRODUCED BY MACROPHAGES, IFN-ALDHA HAVE ANTIVIKAL EURCTIVITIES, INTERREERON STIMULATES THE PRODUCTION OF TWO ERRYMESS A PROTEIN KINASE AND AN OLIGOADENVIATE SYNTHETASE.
   151 LRNF 154
                                                                                                                                                                            Jocal Similarity
                                                                                                                           31 CIKDEMBEDIEELKOLOOFOKEDAALTIYEMIQHIFATERODSSSTUMNETIVENILAN 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SUBCELLULAR LOCATION: Secreted.
                                                             91 VYHQINHLKTVLEEKLEKFDFTKGALMSSIHLKKYYGKILHYLKAKEYSHCAWTIVRVEI 150
                                                                                            52 CLKPFNDFGFPQEVFDGNQFFKPQAISAVHETIQQIFHLFSTDGSSAAMDESLIDKLYTG 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FAMII.Y
                                                                                                                                                                                                                                                                                                                                                     PD000550;
                                                                                                                                                                                                                                                                                                                                                                                                    jPR000471:
                                                                                                                                                                                                                         184 AA; 20782 MW; 4015D991E0A6D24A CR064;
                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STANDAKD;
                                                                                                                                                                                                                                                                          24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           05, Last sequence update)
41, Last annotation update)
                                                                                                                                                                                                                                                                                                                                      [Fabd;
                                                                                                                                                                                                                                                                                                                                                                       . INTERPLECIAL
                                                                                                                                                                                                                                                                                                                                                     Interteron_abd: 1.
                                                                                                                                                                                                                                                                          23
184
                                                                                                                                                                                                                                                                                                                                                                                                       Interferon_abd.
                                                                                                                                                                              29.3%; Score 254; DB 1;
39.5%; Pred. No. 8.1e-15;
                                                                                                                                                                    27
                                                                                                                                                                                                                                             BY SIMILARITY.
                                                                                                                                                                                                                                                                              INTERFERON ALPHA-3.
                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               184 AA
                                                                                                                                                                                                      рв 1; Length 184;
                                                                                                                                                                         Indels
                                                                                                                                                                            0; Gaps
```

DNA 5:445-356 (1986).

-i- FUNCTION: PRODUCED BY MACROPHAGES, IFN-ALPHA HAVE ARTIVITED.

-i- ACTIVITIES, INTERFERON STIMULATES THE PRODUCTION OF TWO ENZYMES:

A PROTEIN KINASE AND AN OLIGOADENYLATE SYNTHETASE.

A PROTEIN KINASE AND ACCRETED.

-i- SUBGELUCIAR LOCATION: Secreted.

-i- SUBGELUCIAR LOCATION: Secreted.

use by non-profit institutions as long modified and this statement is not removed. the European Bioinformatics Institute.

institutions as long as its content atement is not removed. Usage by a

There are no restrictions on

"Molecular cloning and expression in Escherichia coli of equinc type [ interferons.":

Hamptmann R., Adolf b.k. Swetty Fr.

PIR: A24912; IVHOA1. EMBL: M14540; AAA30953.1; -.

P01563; 2HIE

InterPro: IPR000471; Interferon\_abd.

SMART: SM00076: IFabd: 1.
PROSITE: PS00252; INTERFPRON\_A\_H\_D; 1.
C1t-Fine: Antivital: Multidene family: Signal.

probom: pD000550; Interteron\_abd; 1. PRINIS: PR00266; INTERFERONAP Pram; PF00143; interferon;

SOFFIE

Query Match Best Loral : Matches

/ Match 29.3%; Store 254; DB 1: | Loral Similarity 39.5%; Pred. No. 8 le-15:

Conservative

27; Mismatches

SEQUENCE GLATINSIG DISHLED

184 AA;

20808 MW;

BY SIMILARITY. INTERFERON ALPHA-1.

9E850B8CD05C83E6 CEC64;

DB 1: Longth 184:

indels

0; Gaps

2 Ş

(a) 172 MRSF 176

Scarch completed: May  $(b_{\ell},2003,-09)52(46)$  tobetime: Fig. Secs

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Title:
Perfect score:
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                                                                                                                                                                     Minimum DB seq length: 0
Maximum DB seq length: 2000000000
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                                                                                                                                                                                                                        Total number of hits satisfying chosen parameters:
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867
1 MAYAALGALQASSNEQOQFI
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                                                                     PIR_73:*
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                                                                                                                        Maximum Match 100%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 copyright (a) 1992 - 2003 Compugen Ltd.
pir1:*
pir2:*
pir3:**
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Prod. No. is the number of results predicted by chance to have a score areater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

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AS 3746	IVHUA7	JS0204	IVHOA2	146972	146975	A6 ] 455	CVCHAL	179570	137584	910HA1	N. 1578	I46974	870011	146398	IVOHAI	IVHCA3	IVHOA4	IVBCII	j i i HA1	1VH021	IVH022	For 45:	IVMSB	IVBOBI	IVBOB3	TVB⊖B2	180HA1	THUHVI	
interferon, tropho	interferon alpha 5	trophoblast interf	interferon alpha i	interferon onega44	interferon omega20	trophoblast protei	interferor alpha-2	alpha 2 interferon	IFN alpha N·protei	interferon alpha :	trophoblast prote:	interferon omega45	interferon type I	interferon alpha -	interferon alpha-i	interferen alpha i			interferen emegani	interferon alpha i	interferon alpha I	interferon bota jo	interferon beta pa	interferon beta-1	interferon beta 3	interferon beta-2	interferon beta I	interferon beta 1	Description

A,Accession: A93706 A,Molecule type. mRNA A,Besidues, 1 187 dBpc

A; Molecule type: mRNA A; Residues: 1 68 < HC2>

1 1111111
E 146275
2 740068
2 B39505
2 152347
2 146397
E 150102
1 IVHUAU
1 IVIC18
D F05040
2 A61403
2 823751
2 A39505
2 147097
2 147066
2 147058

### ALIGNMENTS

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A:Title: Molecular cloning and expression in Escherichia coll A:Teterence number: A:0056; MULD:87053170; PMID:3022999
                                                                                                                                                                                                  Kiffinmlet. A.: Hauptmann, R.: Adolf, G.R.: Swetly, P. 1986, 5, 645, 655, 1986
                                                                                                                                                                                                                                                                                                 N:Alternate names: EqIEN beta 1: type 1 interferon
C:Species: Epuns caballus (domestic horse)
C:Date: 28 bec 1987 #sequence_revision 28 bcc 1987 #text_change 22
Apéross references: GB:MI4546; NID:g164228; PIDM:AAAB9954.1, PID-g164229
                                             A: kesidues: 1 186 - HIM -
                                                                                                                 A:Accession: G24912
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A)Resperimental source: Variant, clone pF526
A)Resperimental source: Variant, clone pF526
A)Note: the loss of Cys-162 (and of the ability to form the essential disulfide bond) in A)Note: the loss of Cys-162 (and of the ability to form the essential disulfide bond) in A)Note: the loss of Cys-162 (and of the ability to form the essential disulfide bond) in R:Utsumi, J.; Mizhuo, Y.; Hosoi, K.; Okano, K.; Sawada, R.; Kajitani, M.; Sakai, I.; Nagerian, J.; Hiochem. 181, 545-553, 1989
                                                                                                                                                                                                                                                                                                                                                                                                           interferon beta I preemsor horse
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A:Molecule type: mRNA
A:Residnes: 1 187 - RES -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REMAY, L.L.: Schadl, P.B.
J. Inforteron Ress. 5, 221 526, 1985
A:Enther on the relationship between human interferon alpha-1 and beta-1 genes.
A:Reference tamber: 156315; MUID:86035565; PMID:2414376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       As Contents: annotation; disulfide bond
ReShepard, H.M.: Lennq, D.: Stebbing, N.; Goeddel, D.V.
Nature 294, 563 (66), 1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     E:1 21/10main: signal sequence #status prodicted <SIG: E:22 187/Product: interferon beta-1 #status experimental <MATS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Arcross references: GDB:120522: OMIM:147640
ArMap position: 9p21-9p21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AsGenes GDB: FENBL: TENB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A: Toss references: GB:M28622; NID:q184624, FIDN.AAA36849.1; FID:g184625
C:Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Addition Assignment of the disciphide bonds of leukocyte interferon. Addedonous number: A94244; MUD:B1123083; PMID:6162107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F:52-162/Disulfide bonds: #status predicted
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A: Fitte: Characterization of four different mammalian-cell-derived recombinant human inf
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Affither A simple amino acid change in IEN-beta-1 abolishes its antiviral activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nature 289, 606-607, 1981
                                                                          Moderate type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a Supertainity: interferon alpha
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.1 HUKEYYUK IDHYUKAKEYSH AWTI VRVEI LEWEYKURGIGIURN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 142 HERYYGRELAN LAKRYSHUMWITVRVELLKUPYN MKUTOYER I 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         y Match 95.6%;
Local Similarity 95.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 EMEGNIFATERGESSS (GWNETTVENELANVYHOINHEKTVEFKTEKEDETEGALMSSE 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    82 EMLQNIFAIFRQDSSSTGWNETIVENLLANVYHQINHLKTVLEEKLEKEDFTRGKLMSSL 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22 MSYNILGFLOKSSNEGGGKILLWGLNGKLEYGLKURMNEDIPEEIKGLQQFQKEDAALTIY 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               159;
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    Mismatches

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                                                                                                                                                                                                                                                                                                                                                                                                                                                     F:131,173/Binding site: rarbohydrate (Asn) (constent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C:Superfamily interferon alpha C:Keywords: glycoprotein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F; l 21/Domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A: Rosidnes:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Reference number: A90097
A; Accession: A01840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    R:Leung, D.W.; Capon, D.J.; Goeddel, D.V. Bio/Technology 2, 458-464, 1984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C:Species: Bos primigenius taurus (cattle) C:Dato: 15 Nov 1984 #Degaence_recision 15 :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QУ
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C:Keywords: antiviral; glycoprotein
C:Keywords: antiviral; glycoprotein
E:1-2://bumain. signal sequence #status predicted xSIG>
E:22:186/Product: interferon beta 1 #status predicted xMT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A:Title: The structure and bacterial expression of three distinct bovine interferon-b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C; Accession: A01840
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142 LRKYYENLVQYLKSKEYNPOAWTVVBVQILENESELTRIJGYLR 185
                        LEE LEKKYY CREATH LKAKEN SHCAWT (VKVELLEKWEY KURKUTGYTER 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      143 KKYYGRISQYLKAKKYSHCAWTVVQAEMLKNLAFLNGLIDYLQN 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            123 KRYYGRILHYLKAKEYSHCAWTIVRVEILRNEYRINKLTGYLRN 166
                                                                                                                83 MLQQTENTLTRDESSTGWSETTLEDLLEELYEQMNHLEPTOKELMQKQNSTMGD-FTVLH 141
                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                             23 SYSLLREQQRRSLALCQKLLRQLPSTPQHCLEARMDFQMPEEMKQAQQFQKEDAILVIYE 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      84 LQHTWRIFRRNFASTGWNETIVKNLLVEVHLQMDRLETNLEEIMEEESSTWCN-TTILRL 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       63 LONIFATERODSSSTOWNETIVENLIANVYHOLNHLKIVLEEKLEKEDFTEGALMSSLIIL 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24 YDLLRSQLRSSNSACLMLLRQLNGAPQRCPEDIMNEQVPEELEQAQQEQKEDAALVIYEM 83
                                                                                                                                                                                                                                                                                    2 AYAALGALQASSNFQCQKILIWQLNGRLEYCLKDRMNEDIPEEIKQIQQFQKEDAALIIYE 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3 YAALGALQASSNFQCQKLLWQLNGRLEYCLKDRMNFDIPEELKQLQOFQKEDAALTIYEM 62
                                                                                                                                                                       MLQNIFATFRQDSSSTGWNETTVENLLANVYHQINHLKTVLEEKLEKEDFTRGALMSSLH 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1-185
                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                            53.1%;
54.9%;
                                                                                                                                                                                                                                                                                                                                           31; Mismatches
                                                                                                                                                                                                                                                                                                                                                                               Pred. No. 2.7e-31;
                                                                                                                                                                                                                                                                                                                                                                                                       Score 460.5; DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1984 #text change
                                                                                                                                                                                                                                                                                                                                                 42; Indels
                                                                                                                                                                                                                                                                                                                                              --
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interferon beta-3 precursor - bovine C)species: Bos primigenius taurus (cattle) C;Date: 15-New-1984 #sequence\_revision 15-New 1984 #text\_change n7-Feb-1997

A:Title: The structure and bacterial expression of three distinct boxine interferon-b A:Reference number:  $\Delta 90097$ 

R; Leung, D.W.; Capon, D.J.; Goeddel, D.V. Bio/lechnology 2, 458-464, 1984

C; Accession: A01841

A; Molecule type: DNA A; Mesidues: 1-186 < LEU

A; Accession: A01841

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Dp.
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P:22-186/Product interferon beta-3 #status predicted <MATS
P:52-161/Dismitide bonds: #status predicted</pre>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Fitte: The structure and bacterial expression of three distinct bovine interferon-bett A; Reterence number: A90097 A; Accession: A01842
                R: Vodidani, 3.; Coulombel, C.; Doly, J.
J. Mol. Biol. 204, 221-231, 1988
A; Hitle: Structure and characterization of a murine chromosomal fragment containing the A; Reterence number: S02020; MUID:89125582; PMID:3221389
A; Accession: S02020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       F)1-21/Komain, sidual sequence #status predicted <8185
F)22-186/orpoduct interferon beta 1 #status predicted <MAIS
F)52-161/Disultide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A:Molecule type: DNA
A:Pesidnes: 1-186 <LEU>
C:Supertamily: interferon alpha
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C:Species: Bos primigenius taurus (cattle)
C:Date: 15-Nov-1984 #sequence_revision 15-Nov-1984 #text_change 07-Feb-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F;131,173/Binding site: carbohydrate (Asn) (covalent) #status predicted
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Accession: A01842
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                                                                                                                                                                                 interferon beta precursor - mouse
C:Sepecies: Mus musculus (house mouse)
C:Darce 03-Auri1984 #sepecies_int in 33-Auri1984 #fext -bondo 22-Tin-1999
C:Darcession: S02020: S04201; A01839
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A; Molecule type: DNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                         142 LGKYYENLMCYLESKEYERGAWTVVCVOTTTNSFEMKLTOYVRD 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        83 MLQQIENILTEDESSTGWSETTIEDLLVFLYGQMNRIQFTQKEIMQEQNFTMGD-TTVLH 141
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         122 LERYYCRILHYLLAKEYSHYAWTIVEVELLENEYRINEUTGYLEN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23 SYSILERQQERSABVOQKIIOQIHSTPQHOLEAKMBEQVPEFMNQAQQERKFDAILVIYE 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 AYAACAACQASSMEQCEELWQINGFLEYST FORMHEDIFEELKQIQQQQKFDAALTIYE 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     83 VIQHIFGILTRDFSSTGWSETTIFDLIKELYWQMNRLQPIQKEIMQKQNSTTEDTIVP-H 141
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 AYAALGALQASSHEQCQKLLWCLNGPLEYTIKDPMNFDIPEEIKQLQQFQKEDAALTIYE 61
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        47.1%; Score 408.5; DB 1; Length 186; 48.5%; Pred. No. 5.8e-27;
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3. YAALMALQASSMEQCOKLLWOLNGKLEYTI KIRMNETLPEETKOLOOFOREDAALLIYEM 62

24; Mismatches 62; Indels

3.86-20; DB 2:

Length 184:

F;22-184/Product: interferon beta #status predicted <MAT>

Query Match

Best Local Similarity

conservative

37.7%; 45.7%;

Pred. No. Score 326.5;

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REKUGA, T.: Pujita, T.: Taniquchi, T.
HUCleic Acids Res. 17, 3291, 1989
ANTILIC: Nucleotide sequence of the mouse interferon-beta deno.
A: Keference number. S04201, MCID: 89263735; PMID: 3726460
A) Accession: S04201
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A.Title: Structure and expression of a cloned cDNA for mouse interferon-beta.
A.Reference number: A01839; MOID:83265757; PMID:6688252
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F;1-21/Domain: signal sequence #status predicted \SIC\
E;22-182/Product: interferon beta #status predicted \MAT\
E;22-182/Production Br

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A; Residues, 1 182 <HIG>
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NID:q51550; PIDN:CAA32190.1; PID:q5159; R:Kuga, T.; Fujita, T.; Taniquchi, T.
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                                                                     A; Residues: 1 182 < VOD>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P:Pskayoma, S.; ohishi, N.; Shamoro, M.; Watanabe, Y.; Yaqi, K.
Biochem, Biophys. Res. Commun. 232, 698-701, 1997
A:Title: Isolation and expression of rat interferon beta dene and growth-inhibitory of A; kelerence number. JC5124, MGTL.37271387, FMID:()254348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C:Species: Rattus norvegicus (Norway rat)
C:Date: 10-Jun:1997 #sequence_revision:18 Jul 1997 #text_champo 20-hun:2000
C:Accession: JC5424
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A:Rocalducs: I-181 (YOK)
A:Rocalducs: I-181 (YOK)
A:Cross-reterences: DDBJ:DBJ919; NID:q1616938; FiDA:BAA14502.1; FID:q1616949
C-Commont- This protein exhibits characteristic antivital and antitumor activities
                                                                                                                                                                                                                                          C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          interferon beta precursor · rat
C:Superfamily: interferon alpha
F:1-zi/Domain: signal sequence #status predicted .SIG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       68 ATERQUISSELGMHETTVEHTLAMVYHJEMHETVEHHEMENHITIPOALMGGLIILKIVYG 127
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Match 38.4%; Score 33; DB 1; Length 182; Local Similarity 48.4%; Prod. No. 1.1e-20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             85 LVERNNESSIGWNEITVVRLIDELHQQTVELKIVILEEK QEERLINEMSSTALHLKSYYW 143
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                                                                                                                                                                           IFNbeta
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                                                                                                                                                                             Fol 25/A-main: signal sequence watatus predicted SIG
Fo24 195/Product; interferon alpha II-1 #status predicted -MAT-
                                                                                                                                                                                                                                                                                                   Administration (pp.) DNA
Administrations of 1955 HEM (Administration Permitted (Permitted 16423)
Administration (Permitted 16423)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RiffinmHer, A.: Hauptmann, R.; Adolf, G.R.; Swetly, P. SNA 5, 445–456, 1986
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F) 24/Assain: signal sequence #status predicted +MAT+
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               interteron alpha II-2 precursor - horse
N;Albernate names: EqIFN-alpha-II-2; EqIFN-omega-2; type I interteron
C:Species: Equus caballus (domestic horse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12
                                                                                                                     File1/Binding site, carbohydrate (Asn) (covalent) #status predicted
                                                                                                                                                    F:24 122,52 162/Disultide bonds: #Status predicted
                                                                                                                                                                                                                                          CyReywords: antivital; qlycoprotein
                                                                                                                                                                                                                                                                         C. Superfamily: interteron alpha
                                                                                                                                                                                                                                                                                                                                                                                                        A:Accession: E:491.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N:Alternate names: EqIFN-alpha II-1; EqIFN-omega-1; type I interferon c:Species: Epuns caballus (domestic horse)
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C:Superfamily: injerteron alpha
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A: Residues: 1 195 - HIM-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             172 MRSESSSANLOCKER 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         151 LENTYRINKLIGYLE 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           112 BLRQLEDBBTCLEQEMGEERSALGIVRETLAVERYERGIHLYLEBEKYSIKZAWEIVEMET 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      141 ESYYWRYDRYCHOKEYNSYAWMYVRAEVERNEST LLRUNRNEON 184
   becal Similarity 41.0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     91 YYBQINHIKIYUGGA GGERGE MALANSHINGEYYGKILHXIBKAKKKSKSACAWITYKYKI 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                52 CLKBRKDERFEGOMADGRGEPEAQAASVLHEMIGGIESLEHTERSSAAWNTTILDELCTG 111
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41.1%; Score 270; 18-1; 1.
41.0%; Fred. No. 2c 15;
'': Mismatches 53;
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                                                            DB 1; Length 195;
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172 MRSFSSSANLQGRL 185
                                                           151 LRNEYRINKLIGYL 164
                                                                                                                              112 LIPOGERTANTOLI ROTGEERSALTI VORTLAVERYTERI REXELEREKYSISTAMETARVIJE 171
                                                                                                                                                                                                                                                                                        31 CLKDRMNEDIPERIKÓŁOGEGONEGONALTYRMIGONIFALEKGOSSSTGWNETIVENILIAN 90
                                                                                                                                                                                             91 VYHQINHLKTVLEEKLEKEDFTEGALMSSIHLKRYYGRILHYLKAKEYSIFYAWTIVRVET 150
                                                                                                                                                                                                                                                        52 CLKHRTDEREPOROLDGROFPEAGATSVLOEMLOGIVSLEHTERSSAAWNIILLIJHGLAG TIT
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C;Species: Homo saplens (man)
C;Saccession: A99070: A24020: K24020; S16174: 840306; A35230; A34619; A33573; B93573;
C;Accession: A99070: A24020: K24020; S16174: 840306; A35230; A34619; A33573; B93573;
R;Capon, D.J.; Shepard, H.M.; Gooddel, D.V. Mol. Cell. Biol. 5, 768-779, 1985
                                                                                                                                                                                                                                                                                  interferon omega-1 precursor (validated)—human
N;Alternate names: IFN omega 1; interferon alpha:Il 1 (IFN alpha II 1); type 1 interf
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Affile: A novel class of human type I interferons. A:Beforence number: A93573; MUID:85269605; PMID:8895[59 A:Accession: A24020 A;Cross-references: GB.M11003, NJC.g184610, PIDALAAA52724.1; PID-q486800 A;Experiment, R.; Swetly, P. A.Title. Two distinct families of human and bodine interferon alpha genes are coordin A:Reference number: A93070; MUID:85187974; PMID:2985969 A:Accession: A93070 Nucleic Acids Ros. 13, 4739 4749, 1985 A; kes iddes: A; Molecule type: DNA . 110,787,112 195 «CAP

A; Experimental source: clone P9A2, Namalwa cells (human Burkitt's lymphoma cells) ind A;Residues: 22×195 <HAU1> A;Cross=roterences: GB:XC2669; NID:432750; FIRM:CAA26501.1; PID:475808+ A; Molecule type: mkNA

A:Experimental source: clone E7689, Namalwa cells (human Burkitt's lymphoma cells) in R;Adolf, G.K.; Fruehbeis, B.; Hauptmann, R.; Kalsner, I.; Maurer Fody, I.; Ostermann, Biochim. Hiophys. Acta 1089, 167-174, 1991
A:Fitte: Human interferon omega 1. isolation of the gene, expression in Chinese hamst A:Reference number: S16174; MUID:91274445; PMID:1647209 A; kesidues: 22:133, 's', 135:195 < HAU2

A; Molecule type: DNA A; Residues: 1-195 < Afool + A:Cross references: EMBL.X58822, NIB.442706, PIDN.CAA41626.1, PID.432707

A; Accession: S16174

A: Molecule type: mRNA

Accession, B14010

A: Molecule type: protein
A: Residues: 22-23, 'X', 25-33 < ADO2 -A: Accession: S40306

R:Adolf, G.R.; Maurer Foqy, I.; Karsner, I.; Cantell, K. J. Biol. Chem. 265, 9290-9295, 1990 A:Title: Purification and characterization of natural buman interferon omegal. A; Reference number: A35299; MCID: 90264122; PMID:1693148 1 × 0 41

A; Molecule type: protein A; Residues: 22-33 <ADO> A; Accession: A45299

A:Experimental source: leukocytes

A.Note: evidence for two amino terminals, glycosylation Rishinono, H.; Kono, K.; Koda, J.; Hayashi, S.; Matsho, A.; Hiratani, H. Biochem. Biophys. Res. Commun. 168, 16-21, 1990
A.Title. Existence and unique N terminal sequence of alpha II (omega) interferon in n A.Reforence number: A34618; MUID:90226353; PMID:2158314
A.Accession: A34618

A; Molecule type: protein A; Residues: 22-33 <SHI>

A:Note: evidence for two amino terminals C:Comment: Viral injection induces coordinate expression of both alpha I and omewarl

Asthono: GDB:IFNW1
Astross-reterences: GDB:I34207; OMIM:147553
Asthop position: yp22-9p22
C.Superfamily: interferon alpha
C.Seywords: antiviral; cytokino: glycoprotein

E:1-21/commun. signal sequence #c:1/is predicted <SIGs E:22-195/Howhest. interferon cmoque! fong from #status experimental E:24-195/Froduct. interferon cmoque! #status experimental <MAF2> E:24-125/E:162/Signifide bonds: #status predicted E:101/Binding site: carbobydrafe (Asn) (covalent) #status predicted

Query Match Local similarity 29.6%; Score 257, DR 1. 38.7%; Pred. No. 2.5e-14; 32. Wismatches 50: Indels Length 195:

50 31 CLKURMNEDIPEEIKQIQQFQKEDAALTIYEMLQNTFAIFFQDSSSTGWNETIVENLLAN 90 53; Conservative

먇 52 CLEDERDYBEFGEMVKOSQTQKAHVMSVLHEMLQQIFSLFHTERSSAAWNMTLLDQLHTG 111

Ş 112 LHQQQQACETQLIQ-VV:PPFPRQARESVARHIDENPSYSQATEVV: FFEET 111 111: 1 1: 1 1: 91 VYBQINHLKTVLEEKLEKEBFTRGAIMS SLHLKEYYYGPTIHYIKAKLYSDGAWTIVSVF 149

150 ILKNEYRINELIGYLEN 166

당

171 IMKSLPLSTNMOFFFRS 187

interferon alpha-II-1 precursor - bovine N:Alternate names: BoIFN-alpha-II-1; BoIFN-omega-1 C:Species: Hos primigenius taurus (cattle) C:Pate: 28 Dec-1987 #sequence\_revision 28-Dec-1987 #text\_change 22-Jun-1999 C: Accession: B23285

R:Capon, D.J.; Shepard, H.M.; Goeddel, D.V. Mol. Cell. Biol. 5, 768-779, 1985

A:Pittle: Two distinct families of human and boying interferen alpha genes are coordinate A:Reterrence number: A93070; MUID:85187974; PMID:2985969

A; Molecule type: DNA A; Residues: 1-195 <CAP> A: Accession: B23285

Cycomment: Viral infection induces coordinate expression of both alpha-1 and alpha-11 (d A.Cross-references: GB:M11002; NiD:q163177, PIDN.AAA36578.1; PID:q163178 A.Experimental source: pancreas C:Superfamily: interferon alpha C; Keywords: autiviral

F:1 23/Pomain: signal sequence #status predicted <SIG> F:24-195/9: 30-\*\* in\*erteron alpha-IT-] #status predicted <MAT> F:24-122/52-162/visaltide beads. #status predicted

19 KLIWOLMGRE - ETCLKEEMHEELFOLOOFOKEDAALTIYEMLONIFATERODSSS 76 Local Similarity Conservative pd 5%. Score 255.5; DB 1; Length 195; 38.3%; Pred. No. 3.3c-14; 30; Mismatches 59; Indels ω ··

39 RILLOOME-RISPERCIONERDEAFPOEMVEVSOFGEAGAISVIHEMIQQSTHIFHKERSS 97

밁 5 98 AAWDTTLLEQLLIGLHQQLUUUDAGLUULTGEEDSALUETGETLAMKEYEQGIHVYLQEK 157 TOWNETIVENILANVYHÇINHLKTVLFEKLEKEDFTRGALMSSLHLKFYYGFILHYLKAK 136

137 EYSHCAWIIVRVEILRNFYRINKLIGYLK 165

158 GYSDCAWEIVRLEIMRSLSSSTSLQERLR 186

1VHOA4

interteron alpha-1-4 precursor - horse
N:Alternate names: Eq1FN-alpha-1-4; type 1 interferon
C:Species: Equus caballus (domestic horse)

A:Title: Molecular cloning and expression in Escherichia coli ot equine type I intell A:Reference number: A90956; MUID:87053170; PMID:8022999 E/1-23/Eumain Signal Sequence #Status predicted <SIG> E/24-184/Product: interferon alpha-1-4 #status predicted <MAT> E/24-154/Product: interferon alpha-1-4 #status predicted <MAT> R:Himmler, A.: Hauptmann, R.: Adolf, G.R.: Swetly, P. DNA 5, 345-356, 1986 C;Date: 28-Dec=1987 #sequence\_revision 28-Dec-1987 #text\_chance 18-Jun 1999 A;Cross;references: QB:M14543; NID:q164224; PIDN:AAA30952.1; PID:q164225 A; Molecule type. DNA A; Rosidues; 1 184 < HIM A.Accession, D219 C;Accession: D24912 C; Superfamily: interferon alpha C; Keywords: antiviral Query Match Matches Local Similarity 22 CLEDBROWGO (20 K) AUGS FEB. A COMBRO (20) DRI PROPOSSAMBDESILIBRING THE FILL OF THE FOLLOWING THE 91 BARACHANGARANATARTANGAKANTHITISONTWODELEGINGTANGTANGTARANGA (2) 31 CEKERMNERTEELKQLQGGALLAALTIYERGQATIATIYGGGSSSSWAPTIVEBLIAN 90 Cansarient ive 29.3%; grane 254; DB l: 39.5%; Pred. No. 4.1e-14; 27; Mismatches 48; Indols DB 1; Length 184;

RESULT 13

172 MRSF 175

151 LRNF 154

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interferon alpha-1-3 precursor - horse | N;Alternate names: EqiFN-alpha-1-3; type [ interferon C;Species: Equus caballus (domestic horse)

C;Date: 28-Dec-1987 #sequence\_revision 28 Dec 1987 #text\_change 18 Jun-1999 C;Accession. C24912

R:Himmler, A.; Hauptmann, R.; Adolf, G.K.; Swetly, P. DNA 5, 345-356, 1986

A;Title: Molecular cloning and expression in Escherichia coli of equino type I interf A;Reference number: A90956; MOID.87053170; PMID:3022999

A. Accession: C2491

A; Mojecule type: Dan A; Mojecule type: Dan

A;Cross-leferences: GB:M14542; NID:q164222; PIDN:AAA;0951.1; PID:q164224; C;Superfamily: interferon alpha C;Keywords: and lyiral

P)1 22/bemain' siqual sequence #status predicted <SIG-F)24-184/Product: interferon alpha-1-3 #status predicted <MAIP F)24-122,52-162/Disulfide bonds: #status predicted

Query Match

29.3%; Score 254; DR E

Best Local Similarity 39.5%; Pred. No. 4.1c 14:
Matches 45, Conservative 27; Mismatches 48 Conservative DR 1: Longth 184 o; daps

21 CLKERMNEDIPREIKULQUFONEDAALTIYEMIQUITAITEQDESSTGWNEITVENIJAN 90

52 CLEVENISPREPOEVERGMOFRKFOALSAMBTIGGIFHI ESTIGSSAAMUSSLLUKUVIG 111

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112 TYOQLIBALBACLSOEVGVEEGGLENIDESTLAVPPVEGGELALVI GEKKYSHYAWEIVBABI 171 9) VTHQTRHERIVERELEFIJA (KJALKEELHERYY 1410 HVI VAVEYSHOAWTIVRVET 150

151 LRNF 154

RESULT 14 172 MRSF 175

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E;Whaley, A.E.: Carroll, R.S.: Imakawa, K.
Gene [106, 281, 282, 1991
A;Filler (Former and analysis) of a gene encoding ovine interferon alpha-II.
A;Forterence number: [46.898; MIID:920-9090; PMID:19-87057
A;Forterssion: [46.898; MIID:920-9090]
A;Forterssion: [46.898; MII
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Cibaten 14 Feb 1977 #sequence revision 14 Feb 1997 #text_change 16-Jul-1999
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                                                                                A: Litte: Molecular cloning and expression in Escherichia coli of equine type I interford A: Peterence number: Ax0556; MUID:H7054170; PMID:4022999
A:Accession: Ax4512
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NAAlternate names: EqUEN alpha I 1: type I interferon
Tispecies: Equus caballus (domestic horse)
Tisate: 28 bec 1987 #sequence_revision 28 bec-1987 #text_change 18:Jun-1999
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Local Similarity 39.5%; Pred. No. 4.1e-14;
hes 49; Conservative 27; Mismatches 48, Indels
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5.1.4\_p5\_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
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pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

/note: "wild type the replaced with Ala" wise-difference  $11\,$ 

/note→ "wild type Arg replaced with Ala"

27-APR-2000. WO200023114-A2 /note= "wild type Asm replaced with Ala"  $\tt Misc\mbox{-}dif\mbox{'lerence}$  5 /note= "wild type Ser replaced with Ala" Misc-difference 4

 $\underset{\text{Misc-difference 2}}{\text{Location/Qualitiers}}$ 

Homo sapiens. Synthetic

/note- "wild type leu replaced with Ald" Misc-difference  $8\,$ 

Result No.	score	Query Match	Query Match Length DB		10	Description
	857	100.0	166	21	AAY84950	Alanine mutant of
83 (	367	100.0	Š	21	AAY 10872	Human interteron-D
اندب	842	97.1		21	AAY84949	Amino acid sequinc
4	842	97.1		21	AAY70871	Wild-type numan in
υn	832	96.0		21	AAY70907	Human interferon-b
σ	832	96.0		일	AAY70908	Human interteron-b
7	832	96.0	166	21	AAY70909	Human interieron o
æ	830	95.7		6.3	AAY84962	Alanine mutani or
9	830	95.7		21	AAY70884	Human interferour
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AATIOOOR		A > [ ] D D D D T S	AVLUOUVA:	AAU00106	AAU00104	AAP50197	AAY25371	AAY7086/	AAE15824	ABB07427	AAB19776	AAE10345	AAY05380	AAW61154	AAR56987	AAF20026	AAP10016	AAY70866	AAY84920	AAP50261	AAE16797	AAB49357	AA649356	AAU00070	AAU00038	AAE11979	AAE10346	AAY70885	AAY84963	AAW81774	AAP70296	AAP6 1 0 7 1	AAP50279	AAPSO262	
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### AAYH4950 Alamine motant of human interferes beta la protein. AAY84950, AAY64950 standard, itototh, 165 AA Interferon peta la, lifebatala, plijmes jeljalbylone givedi tumouni cancen, automamune conditação filiaris, lopus citifeb s lecemis: /1-Ant / (first entry) vital disease; analogenic disease.

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                                                              Human; interferon beta; IFN beta; immunoqlobulin; tusion protein; mutant; indiodenesis: infiselerotic; ictilettammitery; immunosappressive;
                                                                                                                                                                                    Human interteron beta alamine substituted mutant Al.
                                                                                                                                                                                                                                                                                                                                                                                                                AAY70872 standard: Protein: 166 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAYXA950 64 represent alamine mutants of human interferon beta la (LEN betala) protein. The protein is used to produce a composition comprising a digresylated LEN beta compled to a non-naturally-occurring polymer containing a polyalkylene digret. The composition has enhanced activity, measured by an antiviral assay, as compared to physiologically
                               cytostatic; virueide; hepatotropie; antiangiogenie; treatment; fibrosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Section of the sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of antisopenis diseases. IEN-betala is useful as an agent for the treatment, remission or aftenuation of a disease state, physiological condition, symptoms or etiological factors, or for their evaluation of diseases. The IEN betala polymer conjugates may also be used for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             active HFN beta. The polymer-HFN-betala conjugate has the ability to
stay in the vasculature for longer periods of time, has increased
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New ally esylated interferon beta la compled to a non-naturally occurring polymer containing a polyalkylene glycol useful for treating e.g., tamors, autoimmune disorders, viral injections and anylogenic
                                                                                                                                                                                                                                                                  00007 THF 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IFN betala constituent is efficacions, in biological systems or specimens, note: the present sequence does not appear in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     prophylaxis or treatment of any condition or disease state for which the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         conditions such as tibrosis, lupus and multiple selecosis. These may all be used in the treatment of viral diseases, as well as in the treatment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       specification; it was created using information provided
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121 HERRYYGE GUYLAAKEYSH AWOLVEVELENEYSH LEURINGI 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
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inflammatory disease; autoimmune disease; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Score 867; DB 21; 100.0%; Pred. No. 1.2e-72;
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mutant can be used to produce IFN-beta fusion proteins.

Note: The present sequence is not shown in the specification but
derived from wild type human IFN-beta sequence found in page 46
                                                                                                        The Ala/Ser substituted mutants of IFN beta having substitutions helices A, B, C, D or E, or loops AB, CD or DE were assessed for receptor binding and functional activities e.g. antivital and
                                                                                                                                                                                                         The patent discloses fusion proteins comprising digcosylated interferon beta (IFN beta) capacially MFN beta la, linker groups and non-IFN-beta proteins, especially an immunoalobalin (Ia) protein. The fusion protein is useful for inhibiting angiogenesis in a patient. It may also be used to treat multiple sclerosis, tibrosis, inflammato.
                                                                 antiproliterative activities which are disproportionately low with respect to receptor binding, compared to wild type IFN-beta la. Ba
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note-
Misc-difference []
                                                                                               antiproliferative activities. The Al mutant shows antiviral
                                                                                                                                                      mutating residues in the helix A of wild type sequence
                                                                                                                                                                    a human interferon-beta alanine substituted mutant Al generated by
                                                                                                                                                                                characterised by neovascularisation.
                                                                                                                                                                                            and autoimmune diseases, cancers, hepatitis and viral intection
                                                                                                                                                                                                                                                                                             Example 1; Page -; 82pp; English.
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             (AAY70871)
                                                                                                                                                                                                                                                                                                                          and logenes is
                                                                                                                                                                                                                                                                                                                                        Fusion proteins comprising interferon-beta-la useful for inhibiting
                                                                                                                                                                                                                                                                                                                                                                    WP1; 2000 (09654/29)
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Zlabel= Helix_E
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                                                                                                                                                                                                                                                                                                                                                                                               Brickelmaier M,
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                    The present sequence represents human interferon beta la (1FN-betala) protein. The protein is used to produce a composition of (1FN-betala) protein. The protein is used to produce a composition of comprising a glycosylated IFN beta completed to a more naturally-occurring or polymer containing a palyalkylone glycol. The composition has schanced or active IFN-betal The polymer IFN betala conjugate has the ability rocative IFN-betala the polymer IFN betala conjugate has the ability rocative IFN-betala from proteolytic disposition and subsequent abolition activity, and increased thermal stability. The polymer-based conjugates are useful or attended thermal stability. The polymer-based conjugates are useful or attended the subsequent abolition activity, and increased thermal stability. The polymer-based conjugates are useful or attended to itral diseases, as well as in the treatment of angiogenic of diseases. IFN-betala is useful as an agent for the treatment, remission or attenuation of a disease state, physiological condition, symptoms or etiological factors, or for their evaluation or diagnosis. The IFN-betala
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New diviousylated interferon-beta-la coupled to a non-naturally occurring polymer containing a polymlylene glycol esemil for treating e.g. tumors, autoimmune disorders, viral infections and augiogenic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           polymer conjugates may also be used for prophylaxis or treatment of any condition or disease state for which the IFN-betala constituent is efficacious, in biological systems or specimens, note: the present sequence does not appear in the specification; if was created using information provided.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         angiogenesis; antiseleratio; antiinflammatory; immunosuppressive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Wild-type human interferon-beta protein.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                hepātītīs, viral intection; neovascularisation; IFN-beta-la.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cytostatic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; interferon-beta; IFN-beta; immunoqlobulin; tusion protein;
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                                                                                                                                     15-0CT-1999;
                                                                                                                                                                        27-APR-2000
                                                                                                                                                                                                             WOZUUUZ3472-A2.
                                (BIOJ ) BIOGEN INC
                                                                            16-FEB-1999;
                                                                                                16-0CT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 EMLQNIFALFRODSSSTGWNETTVENLLANVYBOTNBLKTVLEEKLEKEDETROALMSSL 120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        virueide; hepatotropic; antianujogenic; treatment: fibrosis;
:letosis, inflammator, direaze; agrejameno disoase; cancer;
                                                                              99US-0120237
                                                                                                                                     99WO-US24200
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /label- Helix_A
                                                                                                                                                                                                                                                                                       /label-
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97.08;
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      Brickelmaier M.
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      Hortman P;
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RESULT 5
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                           16 PER 1979;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; interteron beta; tFN-beta; immunoglobulin; Tusion protein; mutant; andiospenesis; antischerotic; antifinflammalory; immunosuppressive; cytostatic; virucide; hepatotropic; antianglogence; teatment; fibrosis; multiple scherosis; inflammatory disease; autoimmune disease; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A. B. C. D or E. or loops AB. CD or DE. The IEN-beta mutants were assessed for receptor binding and functional activities e.g. antiviral and exploit fermitive activities. Mutants having desired characteristics were used to generate IEN-beta fusion proteins.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and autonomouse discuses, cancers, hepatitis and vital infection characterisad by newscalarisation. The present sequence is a wild type buman interteon beda protein which was used to generate alamine substituted mutants that have substitutions in helices
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                non IFN beta proteins, especially an immunoglobulin (1q) protein. The tusion protein is useful for imbibiting angiogenesis in a patient. It may also be used to treat multiple selecosis, fibrosis, inflammato
                                                                                                                             15 OCT 1999;
                                                                                                                                                                                               27 APR 2000
                                                                                                                                                                                                                                                                 W0200023472 A2
                                                                                                                                                                                                                                                                                                                                                                   Misc difference 93
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAY/0907 standard; Protein; 166 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The patent discloses tusion proteins comprising alycosylated interferon beta (IFN beta) especially IFN-beta-la, linker groups and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example 1: Page 6: 82pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 HILEPYFORTHRYLEARBYSH 'AWLIVRVELLENEYRINELIGYIRN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             161; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               viral intection; neovascularisation; IFN-beta-la.
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Pred. No. 2.4e-70;
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                                                                                                                                                                              Location/Qualitiess
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tusion protein is useful for inhibiting anglogenesis in a patient. It may also be used to treat multiple sclerosis, fibrosis, influmnatory and autoimmane diseases, cancers, heyatilis and viral intection characterised by newsascularisation. The present sequence is
                                                                                                                                                                                                                                                                                                          Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                             multiple sclerosis; inflammatory disease; autoimmune disease:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAY70908 standard; Protein; 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The patent discloses fusion proteins comprising alyeosylated interferon beta (ITW beta) especially ITW beta la, linker assups and non-IFW beta proteins, especially an immunophobulin (1g) protein. Ha
                                                                                                  WO200023472-A2
                                                                                                                                                                                                                                                                                                                                              Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                            hepatitis; viral intection; neovascularisation; IFN beta la
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cytostatic; virucide; hepatotropic; antiangiogenic; treatment; tibrosis
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human interferon-beta alanine substituted mutant H97A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6) PMIQNIPATERGESSSSOWNELLVENLLANVERDERHESTVLEEKLEKEDEFRAALMSSE 120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMIQNIFATEFORSSSTOWNETTVENETANVYAQ: NHEE; VELLERELER TESTACMSSET LEC
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                                                                                                                                                                /note "Wild type His is substituted by Ala"
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96.1%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ); Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 832:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  antiintiammatory; immunusuppressive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20-69;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 21: Length 186:
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The patent discloses fusion proteins comprising glycosylated contenteron-beta (FFN-beta) especially IFN-beta-1a, linker groups and contenteron-beta proteins, especially an immunoglobulin (Id) protein. The cusion protein is useful for inhibiting angiogenesis in a patient. Containing protein is useful for inhibiting angiogenesis in a patient of the may also be used to treat multiple sclorosis, librosis, inflammatory contained the discussion of the present sequence is and autoinmune discusses, cancers, Repatitis and viral inter-tion contained the first alanine substituted mutant #97A.

The mutant was analysed in antiviral assays to assess the effects of mutanting the histidines which chelate zinc in the crystal structure contained the first and the contained wild type activity suggesting that contine mediated dimer formation is not shown in the specification but is contented from wild type human IFN-beta sequence found in page 36 centrals.
                                                                                                                                                                                                                                                                                                                                                                                                       CY.
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   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pusion proteins comprising interteron-beta-la useful for inhibiting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Whitty A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (BIOJ ) BIOGEN INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16-FEB-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15-001-1994.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2000-339654/29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 1; Page -; 82pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16 -OCT-1498;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (AAY70871).
                                                                                                                          angiogenesis; antisclerotic; antiinflammatory; immunosuppressive; cytostatic; viracide, hepatotropic; antiangiogenic; treatment; fibros multiple sclerosis, inflammatory disease; autoimmune disease; cancer;
                                                                                                                                                                       Human; interferon beta: IFN-beta; immunoglobulin; fusion protein; mutant;
                                                                                                                                                                                                     Human interferon-beta alanine substituted mutant H121A.
                                                                                                                                                                                                                                      31-JUL-2000 (first entry)
                                                                                                                                                                                                                                                                    AAY70404;
                                                                                                                                                                                                                                                                                                 AAY70909 standard; Protein; 166 AA
               Misc difference 121
                                                                         Homo sapiens.
                                                                                                           hepatitis:
                                                                                                                                                                                                                                                                                                                                                                            121 HLKEYYGEILHYLKAKEYSHCAWTIVEVEILPNEYPINBLTGYLBN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                     160:
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Similarity 96.4%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                166 AA:
                                                                                                            viral infection: necvascularisation; IFN-beta-la
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
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                               Location/Qualitiers
/note= "Wild type His is substituted by Ala"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 832, DB 21,
Pred. No. 2e-69;
Prematches 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hochman F:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 21; Length 166;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                    fibrosis;
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The patent discloses lusion proteins comprising alycosylated of interferon-beta (IFN-beta) especially ITS beta 12, linear groups and con-IFN beta proteins, especially an immunoglobulin (1d) protein. The function protein is useful for inhibiting angionesis in a patient. Of It may also be used to treat multiple sclerosis, librosis, inflammatory of and autoimmune diseases, cancers, hepatitis and viral infection of characterised by neovascularisation. The present sequence is of mutant was analysed in antiviral assays to assess the effects of mutating the histidines which chelate zinc in the crystal structure of mutating the histidines which chelate zinc in the crystal structure of incompediated dimer formation is not important for IFN-beta activity. Once the present sequence is a not shown in the specification but is considered from wild type luman IFN beta sequence found in page 46
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                                                                                                                                                                                                                                                                                                                                                B
AAY84962
                                                                                                                                                                                                                                                                                           RESULT 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 96.4%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                whitty A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (BIOJ ) BIOGEN INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16-FEB 1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15-OCT-1999:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27 - APR - 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Fusion proteins comprising interferon-beta-la useful for inhibiting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18-OCT-1998:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example 1; Fage -, 82pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (AAY70871)
                                                                                    cancer; autoimmune condition; fibrosis; hapus; multiple sclerosis;
                                                                                                   Interferon beta la: IFN-metala; polymer; polyalkylene alycol: tumour;
                                                                                                                                          Alanine mutant of human interferon beta la protein.
                                                                                                                                                                                21-AUG:2000 (first entry)
                                                                                                                                                                                                                   AAY84962;
                                                                                                                                                                                                                                                      AAY84962 standard; Protein: 166
                                                                    viral disease; anglogenic disease.
                                                                                                                                                                                                                                                                                                                                          121 ALKRYYGRILHYLKAKEYSHCAWFIVKVEILKNFYRINKLIGYLKN 166
                                                                                                                                                                                                                                                                                                                                                                                 121 HLKRYYGRILHYLKAKEYSHCAWTIVRVEILRNFYRINRLIGYLRN 156
                                                                                                                                                                                                                                                                                                                                                                                                                   61 EMLQNIFATERQUSSSIGMNETTVENLIANIVYHOTHHEKTVEERYLEKPIPETROALMSSI 120
61 EMLQNIFATERQUSSSIGMNETTVENLIANIVYHOTHHEKTVEERYLEKFIFTTROALMSSI 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MAYAALASANGAGAKLAWATRO ETENGERENGER ETENGERENGAGEN 60
1 ETENGERENGAGAKLAWATRO ETENGERENGERENGERENGAGA (OPOGKEDAALTIY 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Runkel L, Brickelmaier M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            166 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          990S-0120237
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    Mismatches

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EB 21, Length 166;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5; Indels
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Human interferon beta alanine substituted mutant DE1

31-JUL-2000 (first entry)

AAY70884;

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                                                                                                                                                                                                                                                                                                                                 Autohes 159;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        modified IPN beta la from proteolytic diquestion and subsequent abolition activity and increased thermal stability. The polymer-based conjugates are useful for treating thmors and cancer, as well as autoimmune conditions such as librosis, lupus and multiple selerosis. These may also be used in the treatment of viral diseases, as well as in the treatment of ancionement, remission or attenuation of a disease state, physiological condition, symptoms of etiological lactors, or for their evaluation or disease state.
AAY20884 standard; Protein; 166 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (IFN betala) protein. The protein is used to produce a composition comprising a digress/lated IFN beta compled to a non-naturally-occurring polymbra containing a polyalkylene glycol. The composition has enhanced activity, measured by an antivital assay, as compared to physiologically
                                                                                                                                                                                                                                                                                                                                                                                                                                                  specification; it was created using information provided
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IFN betala constituent is efficacions, in biological systems or specimens, note: the present sequence does not appear in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       diadnosis. The IEN betala polymer conjugates may also be used for prophylaxis of treatment of any condition or disease state for which the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 stability in solution, reduced immunogenicity, protection of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    active IFN beta. The polymer IFN-betala conjugate has the ability to stay in the vasculature for longer periods of time, has increased
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAY84 50 64 represent alamine mutants of human interferon beta la
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New algreesylated interferon beta la coupled to a non-naturally occurring polymer containing a polyakylene glycol useful for treating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WP1; 2000 439534/29.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (BING ) BIOSEN INC.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15 007 1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 1: Page : 73pp; English.
                                                                                                                                                                                                              61 EMILON FATEROUSSSTOWNET I VENILLANVYRO I NIELETVLEEKTEKEUPTE JALMSSE 120
                                                                                                                                                                                                                                                                      EMILONIFATERODSSSEGWNETTVENLLANVYHOTNHLKTVLEEKLEKEDETROALMSSL 120
                                                                                                                                                                                                                                                   MSYNLLOPLORS on JOLELA WILL WILL BOTH LAST KLOWNED FOR LIFELIZER SEED AALLEN LOO
                                                                                                                                                                                                                                                                                                                                                   S1mil: 111 it 7
                                                                                                                                                                                                                                                                                                                                                                                                               I S. S. AA:
                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        autoimmune disorders, viral infections and angiogenic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bunkel L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9908 9120161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9805-0104572
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                                                                                                                                                                                                                                                                                                                                                 95.7%;
                                                                                                              "wild type Glu replaced with Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "wild type bys replaced with Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Brickelmaler M,
                                                                                                                                                                                                                                                                                                                               1; Mismatches
                                                                                                                                                                                                                                                                                                                                                 Score 830; 188-21; Length 166;
Pred. No. 3.1e-69;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Whitty A. Hochman P.
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                                                                                                                                                                                                                                                                                                                               Indels
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by mutating residues in the DE loop of wild type sequence. The Nia/Ser substituted matasts of ITM-beta having substitutions in helices A, B, C, D or E, or loops AB, C) or DE were assessed for receptor binding and functional activities e.g. antivital and antiprolliterative activities. The DEI matast displays both antivital and antiprolliterative activities but its antiprolliterative activities but its antiprolliterative activities but its antiprolliterative activities but its antiprolliterative activities.
                                                                                                                                                                              inteliction beta (IEN beta) experiancy irN beta la, linket droups non-TPN-beta profeins, especially an immunoglobulin (14) pratein. Iusion profein is useful for inhibiting analogenesis in a parient
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human: interferon-beta; IFN beta; immunoqlobulin; tusion protein; mutant analogenesis; antisclerotic; antihilammatory; immunosuppressive; cytostatic; virucide; hepatotropic; antiantioquic; treatment; fibrosis;
activities are lower relative to receptor binding, compared to the
                                                                                                                     characterised by neovascularisation. The present sequence is a haman interferon beta alarine substituted mutant HEL generated
                                                                                                                                                  It may also be used to treat multiple scherosis, fibrosis, inflammatory and autoimmune diseases, cameers, bepatitis and vital intection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     multiple selecosis: inflammatory disease; antoimmune disease; cancer: hepatitis; viral intection: neovascularisation; tFN-beta [a: DE loop.
                                                                                                                                                                                                                               The patent discloses tusion proteins comprising discosylated
                                                                                                                                                                                                                                                               Example 1; Page -; 82pp; English.
                                                                                                                                                                                                                                                                                                           Fusion proteins comprising interferon-beta-la useful for inhibiting
                                                                                                                                                                                                                                                                                                                                            WP1; 2000-339654/29
                                                                                                                                                                                                                                                                                                                                                                        Whitely A. Bankel L.
                                                                                                                                                                                                                                                                                                                                                                                                       (BIOJ ) BIOGEN INC
                                                                                                                                                                                                                                                                                                                                                                                                                                      16-FEH-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15 ·OCT - 1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               27-APR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               W0200023472
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Misc difference
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                                                                                                                                                                                                                                                                                                                                                                                                                                      9908-0120237
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note: "Wild type Glu is substituted by Ala" 141...66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /label: Helix_D
135..140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /label-DE_loop
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      07.1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /label- Helix_A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  . 1 00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    . 1 34
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                                                                                                                                                                                                                                                                                                                                                                         Brickelmaier M. Hochman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Helix_C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Holix_B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 dont_do
                                                                                                                                                                                                                   ticker groups and
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Db
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches 159, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        wild-type sequence. The mutual is used to produce IFN-beta fusion proteins. Note: The present sequence is not shown in the specification but is derived from wild type human IFN-beta sequence found in page 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (17807YAA)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human: interferon beta, antibody: multiple solorosis: gene therapy viral intection; viral hepatitis; concer; breast cancer; inflammation; crobs a disease; acute myeloid leukaemia; Hodakin's disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAUU00069 standard: Protein; 166 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ulcerative colitis; immunomodulation; mutant; mutein; N4K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human interferon beta mutant N4K
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16-MAY-2001 (tirst entry)
                                                                                                                                                                                                                                                                                      26 · NoV - 1999; 99DK - 0001691
07 - PEB - 2000; 2000DK - 0000194
07 - MAR - 2000; 2000DK - 0000363
                                                                                                                                                                                                                                                                                                                                                                                                                                                             W0200115736-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Misc-difference 4
                                                                                                                                                                                                     Pedersen AH, Schambye HT, Andersen KV,
                                                                                                                                                                                                                                                                          14-APR-2000: 2000PK-0000642
                                                                                                                                                                                                                                                                                                                                           27 - AUG · 1999;
21 · Or 1 - 1999;
                                                                                                                                                                                                                                                                                                                                                                                              25-AUG-2000; 2000WO-5K00471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      comprise at least one first non-polypeptide group covalently attached
                The sequence represents Human interferon beta mutant NAK. Conjugates of the invention calibiting interferon beta activity
                                                                    Claim II; Page - : 108pp; English
                                                                                                     attached to an interferon beta polypeptide -
                                                                                                                       multiple sclerosis comprises a non-polypeptide group covalently
                                                                                                                                    A conjudate exhibiting interferom beta activity useful for treating
                                                                                                                                                                        WF1, 2001-218488/22
                                                                                                                                                                                                                                       (MAXY-) MAXYGEN APS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 HIFFYYGFILHYLKAKEYSHOAWTIVPVEILPNEYPINPLTGYLPN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 EMLQNIFALFRQDSSSTGWNETTVENLLANVYHQINHLKTVLEFKLEKEDFTFGALMSSL 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 EMIQNIFATERQUESSTGWNETTVENLLANVYHQINHLKTVLEEKLEKEDFTRGALMSSL 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MSYNLLGFLOPSSNEOGOKIIWEI WYFLEYGUKDRWHEDITBETKOLOGGOKEDAALTIY 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      I MAYAALGALQASSNEQCOKLLWOLNGRLEYCLKDEMNEDIPEETKQLQQFQKEDAALTIY 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             166 AA;
                                                                                                                                                                                                                                                                                                                                                9908-0160782
                                                                                                                                                                                                                                                                                                                                                               99DK-0001197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note- "Wild-type Asn replaced with Lys"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            95.7%; Score 830; DB 21; Length 166; 95.8%; Pred. No. 3.1e-69;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1; Mismatches
                                                                                                                                                                                                            Bornaes C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indula
                                                                                                                                                                                                            Rasmussen PB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
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cc differs from wild-type haman interferon beta in at least one introduced and at least one removed amino acid sequence of which cc and at least one removed amino acid residue comprising an attachment cc group for the first non-polypeptide gloup. The invention also concerns cc reducing the immunogenicity and/or in-reasing functional in vivo cc half-life and/or serum half-life of an interferon beta polypeptide cc comprising introducing an amino acid residue constituting an attachment cc group for a first non-polypeptide group into a position expased at the cc an amino acid residue constituting an attachment cc with the non-polypeptide group and subjecting the addition expased at the cc non-polypeptide group. The conjugate and a cell culture cc with the non-polypeptide group. The conjugate and a cell culture cc with the non-polypeptide group. The conjugate and a cell culture cc disease, especially multiple sclerosis, and for treating mammals having cc insulated proteins may be used for gene therapy. The DNA and proteins can calso be used to treat viral intertions (e.g viral bepatitis), conver (e.g breast cancer), inflammation, Crohn's disease, acute myeloid cc immunomodulation.
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   RESULT 11
AAP30219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches 159; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Note: The present sequence is not shown in the specification but is derived from the human interferon beta sequence given in AADDOUGH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAP30219 standard; Protein: 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      immunomodulation.
                                                                                                                                          19-JAN-1982;
03-FEB-1983;
                                                                                                                                                                                                                                                                                                                                     Hybrid interferon; antiviral; therapy; cancer; tumout
                                                                                                                                                                                                                                                                                                                                                                         pDM101/trp/beta-1.
                                                                                                                                                                                                                                                                                                                                                                                        Sequence of interferon (HulfN) -beta-1 encoded by plasmid
                                                                                                                                                                                                                                                                                                                                                                                                                           25-MAY-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAP30219;
N-PSDB; AAN30152.
                      WPT: 1983-723186/30
                                                      Mark DF, Creasey AA
                                                                                      (CETU-) CETUS CORP.
                                                                                                                           15-JUL-1985;
                                                                                                                                                                                                                                  21-JUL-1983
                                                                                                                                                                                                                                                                    WO8302461-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18-JAN-1983;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 EMIJONIFALEKGOSSSIGWHETIVEHLLININININHEKIVLEEFFFKEGEFGKHMSSL 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 EMIQNIEALERQUSSSIGWNETTVENIGLANVYEG INHGKTYGEEKGEKEGEFFFFMAN MSSI. 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            I MAYAALGALQASSNEQCQKLLWQLNGELEYCLKUKMNEDIPEEIKOLQOFQKEDAAUTIY 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        h 95.7%;
Similarity 95.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      166 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                             (tirst entry)
                                                                                                                             85US-0755265
                                                                                                                                              83US-0463574
                                                                                                                                                               8208-0340782
                                                                                                                                                                                                  83WO-0900607

    Mismatches

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 830; DR 22; Length 166; Pred. No. 3.1e-69;
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AMPSO 26.2

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The inventors claim a multiclass hybrid interteven polypeptide and a problem which encodes it. Prof. the NA with having a nucleotide sequence which encodes it. Prof. the NA sequence consists of alpha and beta intertevens. Prof. IF1 is (i) the 1-74 AA seq. of Huffwalpha-1 (and IF2 is the 74-166 AA seq. of Huffw alpha-1 (and IF2 is the 48-166 AA seq. of Huffwhalpha-61A (and IF2 is the 48-166 AA seq. of Huffwhalpha-61A (and IF2 is the 48-166 AA seq. of Huffwhalpha-61A (and IF2 is the 48-166 AA seq. of Huffwhalf end of a beta-IF and IF2 is the culboxy terminal of an alpha-IF (esp. the NA seq. of Huffwhalf had the 74-167 seq. of Huffwhalf end of a resp.) (See AAN of56, AAP of24). In the examples plasmids pGW5 and pDM1-1/ftp/fecta-1 and p-alpha-61A were used (see AAN of51, AAP of52, AAN of52). Binfl was used to disest the DNA sequences in the region of significant bandrops (see AAN of54, AAN of58, AAN of59, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                wherey Match 95.6%; Scotte 829; D8-4; Length 166; Hest Length Similarity 95.8%; Pred. No. 3.90-69; Matches 150; Conservative 1; Mismatches 6; Egdels
                                                       N PSDB; AANSOLES
                                                                                                  60/296550 SR61 STAM
                                                                                                                                                                                                                        Konrad MW, Mark DE
                                                                                                                                                                                                                                                                                                                                 SHITA: ( BLE)
                                                                                                                                                                                                                                                                                                                                                                                               (CETH) CETHS (CREED)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NVIT EF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5861 SEE 71
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Test AsN 07
7007 1,00 80
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121 HIJKRYYGK IJHYJAK EYSHYAWI IVKVETIJKHEYKINKIJOYIJKN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    <u>-</u>-
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(first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 13
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which is more effective in the treatment of viral or neoplastic
                                                                                                                                Disclosure; Fig 20; 96pp; English
                                                                                                                                                                                         anti-neoplastic and immuno modulatory agents.
                                                                                                                                                                                                                                                                                                  N-PSDB; AAN50306
                                                                                                                                                                                                                                                                                                                                                                                             Bell ID, Boseley PG,
                                 increased biological activity compared to matural IEN-beta, and
                                                                   The sequence encodes a synthetic interteron beta which has
                                                                                                                                                                                                                              New modified beta-interferon(s)
                                                                                                                                                                                                                                                                                                                                WP1: 1985-020165/04.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-JUL-1983;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EP131816-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The inventors claim a process for the product of heterologous polypeptide by transformed bacteria, the pret, promoter-specifor is trp which controls expression of structural genes encoding polypeptides of a synthetic pathway forming tryptophan, esp. at a conen of 5 %T mg/l (T- prodetermined furbidity value measured at 680nm, esp. 10-100). The transformed bacteria are esp. E.coli contq. the plasmid p-betal trp. Example 1 concerns the construction of plasmid p-beta-1-trp for the direct expression of IFN beta under the control of trp promoter-operator.

(Updated on 03-007-2002 to add missing os field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                             (SEAR ) SEARLE G D & CO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28-JUN-1984;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23-JAN-1985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Protein sequence encoding synthetic interferon beta gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       09-DEC-1991 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAP50279;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAP50279 standard; protein; 166 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Interferon-beta; virucide; antitumor; immunostimulant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Polypeptide, esp. interferon, prodn. by transformed bacteria cultured in presence of a repressor which is consumed during
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example: Fig 5; 12pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 HEKEYYOK ILBIYEKARUYSH WAXAA CANACII KRII AA ABAATAA LABA TAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 BEKKYYGKILHYIKAKEYSBCAWIIVRVEIIRNFYRINRLIGYIRN 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        I MAYAALAALQA SOORIGEN WITHIN HER HY HER BESETCH BEHELIK II JALL AALIH 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMIQNITATERQUOSSIGMNULIVENELANYTHQINHERIVESEREEKEEF EREKIMSSI 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   159; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      166 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             83GB-0017880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          84EP-0107498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 788 26
789 26
                                                                                                                                                                                                                                                                                                                                                                                             Smith Jo,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 829; DB 6;
Pred. No. 3.90-69;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                           · useful as antivital
                                                                                                                                                                                                                                                                                                                                                                                          Hought on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 6; Length 166;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
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RESULT 14
AAF51071
ID AAF61
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 159; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             diseases, or immunosuppressed or immunodeficient conditions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              28-MAY-1991 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note
Misc-difference 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAP61071;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAP61071 standard; Protein; 166 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note- "May be any conservative AA" Misc-difference 117\,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Misc-difference 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Misc-difference 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers Misc-difference 1..6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IL-2; (FN-Beta; colony stimulating factor; CSF 1; tPA; hGF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Oxidation resistant mutein of Interferon-Beta.
Modified peptide has residues susceptable to ellistamine \mathbb T and peroxide exidation replaced with conservative AAs. Mutein is thus resistant to exidisation. Other proteins which may be similarly
                                                                                                                                                                                                                                                                                                 05-NOV-1986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                AU8652451-A.
                                                                           Claim 5; Page 50; 50pp; English.
                                                                                                            \circ_{X}idn , resistant mutein(s) . propd. by replacing oxidn, susceptible methionine with conservative aminoacid
                                                                                                                                                                WPI: 1986-239075/37
                                                                                                                                                                                                       Koths KE. Halenbeck RF, Innis MA;
                                                                                                                                                                                                                                       (CETH ) CETHS CORP
                                                                                                                                                                                                                                                                                                                                    17-DEC-1985;
                                                                                                                                                                                                                                                                                                                                                                       17-JAN-1986;
                                                                                                                                                                                                                                                                                                                                                                                                            9861-700-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121 HLERYYGRILHYLKAKEYSHOAWIIVFVFTIFFNFYFINFITGYLFN 166
                                                                                                                                                                                                                                                                                                               18-JAN-1985;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121 HIKRYYGRILHYIKAKEYSHCAWTIVPVFILPNFYFTNPLTGYLFN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 EMLQNIFAIFRODSSSTGWNETIVENLLANVYHOINHLKTVLEEKLEKELFTKGKLMSSL 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 EMIQNIFATERODSSSTGWNETIVENLLANVYHQINHLKTVLEEKLEKEDFTRGALMSSL 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | MAYAALGALQASSNEGCĞKLLWĞLNGELEYCIKBEMNEDIPERTKQLQQFQKEDAALTIY 60
|--| |--| |---| |---| |---| |---| |---| |---| |---| |---| |---| |---| |---| |---| |---| |---| |---| |---| |---|
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MSYNLLGELQRSSNEQCOKLLWOLNERLEYCLKORMNEDIPEEIKOLOOFOKEDAALTI1 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              166 AA;
                                                                                                                                                                                                                                                                                  86115-0893186
                                                                                                                                                                                                                                                                                                85US-0692596.
86AU-0064846.
                                                                                                                                                                                                                                                                                                                                      85US-0810656.
                                                                                                                                                                                                                                                                                                                                                                         86AU-0052451.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            mote.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        95.6%;
95.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "May be any conservation AA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "May be Noterminal truncated or absent"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Ma, be any conservative AA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "May be any conservative AA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 829; DB 6; Length 166; Pred No. 3 9e-69;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5: Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         caps
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8

I MAYAALAALQASSNEQOQKLUMQUNGKLEYSTIKSRMNEDTPEELKQTQQPQKEDAADTIY 60

6; Indels 0; daps

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches 159;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Query Match 95.68; Score 829: DH 8; Longth 166; Best Local Similarity 95.88; Pred. No. 3.90-69; Matches 159: Conservative 1: Mismatches 6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        rendered resistant include tissue plasminogen activator, releny stimulating factor and human growth factor. (Updated on 03.007 2002 to add missing OS field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAP70296 standard; protein; 166 AA
                                                                                                                                                                                                                               The inventors claim an interferon conjugate wherein a C-terminal of the region exhibiting biological activities of interferon-beta has been linked to an N-terminal of the region exhibiting biological activities of interferon damma. The antiviral activity of the conjugate was tested using the cells single verse system according to the CPE 50 inhibition method. Antiviral activity ranged from 200 H/ml to 18500 U/ml.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conjugates of interferon(s)-beta and gamma - useful as antivirals and anti-cell proliferatives with broader spectrum of activity and obtd. economically by recombinant DNA procedures
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Antiviral: antiproliferative agent.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence of interferon-beta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    07-JUN-1991 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAP70296;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPT: 1987-258309/37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EP237019-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 151 | HTREAGRITHOLYRKEASHCVMLIAMAGITTEMALLIHITTITT | 1997 | 1977 | HTREAGRED HALAYEASHCVMLIAAAALITEMALIYAATIRKI 1997 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 1977 | 
                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 7; p35; 52pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Tanaka T, Kawano G, Sawada K;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (TOPA ) TOPAY IND INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26-DEC-1986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16-SEP-1987.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    14-MAR-1986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10-MAR-1987;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 EMIQNIFATEFORSSSTOMBET VENTO ANVOING THE TRANSPERSION OF THE 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Match 95.6%;
Local Similarity 95.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MAYAALCAI ÇASSNEQOQELI WQI NGELEYOLKDEMNEDI PERIKQLQQEQKEDAALTIY 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         166 AA;
                                                                                                                                                                166 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
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86JP-0308693.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     87EP-0103406

    Mismatches

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pred. No. 3.9e-69;
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Ę ¥ \$ Ç tearch completed: May 6, 2003, 09:52:24 but time :  $63.5~{\rm sees}$ 991 NYTABITANTAANATISAAATIANA, HEKAAWETAHTELHETHETHETHETHETHE 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 | 171 

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OM protein - protein search, using sw model

Run on: May 6, 2003, 09:49:03 : Search time 8 Seconds

(without alignments) 860 634 Million cell updates/sec

Title: Pertect score: US-09-832-658A-25

Sequence: 1 MSYNLLGELQPSSNEQCQKL

..RVEILRNEYRINRLTGYLRN 166

Scoring table: BLOSUM62 Gapop 10.0 , Gapoxt 0.5

112892 seqs, 41476328 residues

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 20000000000

Fost-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database : SwissProt\_40:\*

pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

### SUMMARIES

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# ALT GRMERTS

SECTENTE FROM N.A.

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This SWISS PROFeatry is copyright. It is produced through a collaboration between the SWISS Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its
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FINCTION: HAS ANTIVIBAL, ANTIBACTERIAL AND ANTICANCER ACTIVITIES.
PROSITE: PS00252: INTERFERON A B_D: 1.
Cytokino: Glycoprotein: Antiviral: Signal: Pharmaceutical:
                                                             SMART; SMOOD76; IFabd;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an
                                                                                                      Probon; Poucosto;
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Smith J.C., Fotel I.P., Lewis H.M., Forter A.G., Birch J.R.,
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"On the relationship between human interferon alpha 1 and beta 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        send an email to license isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     single amino acid change in IEN betal abolishes its antiviral
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                          Cytokine; Antiviral; SIGNAL 1
                                                                                                                                                                                                                  use by non-profit institutions as long as its content modified and this statement is not removed. Usage by a
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                                                                                                                                                                                                                                                                                                                                                                                            Marakami Y., Kabata T., Machicaki M., Kishi M.;
"Gentic Structure of feline interferon bota.";
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            CHAIN
                                                                     SMART; SM00076; IFabd; 1
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                                                                                                                                                         EMBL; ABU21707; BAA94629.1;
                                                                                                                                                                                                                                                                                                                                   -!- SUBUNIT: MONOMER (BY SIMILARITY).
-!- SUBCELLULAR LOCATION. Secreted.
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Q9N2JO;
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21-JUL-1986 (Rel. 01, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota: Metazoa: Chordata: Craniata: Vertebrata. Euleleostomi.
Mammalia: Eutheria: Cetartiodactyla: Puminantia: Pecora: Rovoidea:
Hovidae: Bovinae: Bos.
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P01576;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Leund D.W., Capon D.J., Goeddel D.V.;
"The structure and bacterial expression of three distinct bovine
interferon-beta genes.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Biotechnology 2:458-464(1984).
-!- FUNCTION: HAS ANTIVIRAL, ANTIHACTERIAL AND ANTICANCER ACTIVITIES
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HSSP: P01574: 1AU1.
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                                                                                                                                                                                          PROSITE: PS00252.
                                                                                                                                                                                                                                                                                pfam; PF00143; interferon; 1. prints - prod266 interferon\alpha
                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; M15478; AAA30580.1; -
                                                                                                                CHAIN
                                                                                                                                           SIGNAL
                                                                                                                                                                                                                          SMAPT: SMODDOTA
                                                                                                                                                                                                                                                     ProDom;
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     SEQUENCE
                                CARHOHYD
                                                           CARBOHYD
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101
131
136
197 AA
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                                                                                                                                                                  Glycoprotein. Antiviral: Multidene family: Signal
     186 AA,
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131
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161
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        22319 MW;
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N-LINKED (GIONAC . .) (POTENTIAL)
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                             PRT;
                                                                                                                      INTERFFRON BETA-2
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        D9F257C6E3250480 CPC64.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 55.3%; Score 482.5; DR 1; Length 186; Best Local Similarity 57.4%; Pred. No. 1.2e-43;
                 Query Match
Best Local :
 Matches
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13-AUG-1987 (Rel. 05, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
                                                                                                                                                                                                                                                                                                                            entities requires a license agreement (See http://www.st.rib.ch.nn.no.wa) or send an email to licensee(sb-sib.ch).
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-!- FUNCTION: HAS ANTIVIRAL, ANTIBACTERIAL AND ANTICANCER ACTIVITIES
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Mammalia: Butheria: Perissodactyla: Equidac: Equus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -!- SUBCELLUIAR LOCATION: Secreted.
-!- SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               I interferons."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Molecular cloning and expression in its decichia coll of equite type
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                                                               SEQUENCE
                                                                                                                                                SIGNAL
                                                                                                                                                                Cytokine: Antivital:
                                                                                                                                                                                                               ProDom: P5000550;
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Pfam; PF00143; interferon; 1.
                                                                                                                                                                                                                                                                                                            EMBL; M14546; AAA30954 l;
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                                                                                  CARBORYD
                                                                                                CARBORN
                                                                                                                DISULFID
                                                                                                                                  CHAIN
                                                                                                                                                                               SMART: SM00076; IFabd; 1.
PROSITE: PS00252; INTERFERON_A_F_D; 1
                                                                                                                                                                                                                                 PRINTS; PR00266; INTERFERONAB
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l Similarity
97; Conserv
                                                                  186 AA,
   Conservative
                                                                                  136
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C.
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                                                                    1MM 28812
                 54.6%; Score 476.5, DB 58.4%; Pred. No. 3.9e-33
                                                                                                                                                                Glycoprotein: Signal.
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       27; Mismatches
                                                                 RELIBERS (SERNACE ...) (POTENTIAL)
N LINKES (SERNACE ...) (PETENTIAL)
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Best Local :
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Probon: Phon0550; Interferon_abd; 1.
                                                                                                                                                                                                                                                                                                                                                                     InterPro: [PRO0047]: InterPeron_abd. Ptam: PF0014: interPeron; 1.
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or send an omail to license4isb-sib.ch).
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"The structure and batterial expression of three distinct boying
interferon beta genes.";
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Mammalia: Eutheria: Cetartiodaetyla: Ruminantia; Pecora: Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21 JHE-1986 (Ref. 01, Last sequence update)
15 JUN 2002 (Ref. 41, Last annotation update)
Interferon beta 4 precursor.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LET HEKRYYER LERYEKAKEYSHCAWTIVRVEIERNFYRINRLIGYERN 166
6.2 MIQNIFALFRODSSSIGWNETIVENLIANVYHQINHLÆTVLEEKLÆKEDFTRGALMSSLH 121
                                 28 SYSTILKEOOKKSAEVOOKTI GEHSTEODET FAKMOFOVEBEMNGAGGEBEEDATIVITYE 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 EMDONIFATEPGESSSTOWNETTVENELANNYHOTNHEFTVEEFELEKEDFTROALMSSL 120
                                                   22 VNYDLLKSQLKSSNSACLMILKQLNGAPQRCPEDIMNFQVPEETEQAQQEQKEDAALVIY 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MSYNLLOPILARGSWEGTGKILWGLIVIKLEYTIKTGMWETTERE IRGUGGGGKEGAALILIY 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA
                                                                                                                                                                                                                                                                                                                                                                                                                           A01841
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMI-QHTWRIFRKNEASTGWNETIVKNILLVEVHI.QMDRLETNLEEIMEEESSTWGN-TTIL 140
                                                                                                                                                                                                                                                                                                                                                                                                          FO1574: 1AU1.
                                                                                                                                                                                                                                                                                                                                                                                                                                           M15479; AAA30581.1;
                                                                                                                            Similarity
                                                                                                                                                                              THE AA:
                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                           1 VHOR3
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                                                                                                                                                                                                                                                                                                  INTERFERON_A_B_D; 1.
                                                                                                                                                                                              51.4%;
52.7%;
                                                                                                                                                                              22059 MW;
                                                                                                      45: Mismatches 42;
                                                                                                                       Pred. No. 8.5e 31
                                                                                                                                       Score 448.5; DB 1; Length 186;
                                                                                                                                                                                           N-LINKED (GLONACT . . .) (POTENTIAL).
N-LINKED (GLONACT . . .) (POTENTIAL).
                                                                                                                                                                                                                               PROBABLE.
                                                                                                                                                                                                                                              INTERFERON BETA-3.
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                                                                                                                                   Matches
                                                                                                                                                 Query Match
Best Local
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                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                               CARBOHYL
                                                                                                                                                                                                                                                DISULFID
                                                                                                                                                                                                                                                                  CHAIN
                                                                                                                                                                                                                                                                                                                                                                                           HSSP; P01574; IAU1.
InterPro; IPR000471; Interteron abd
                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; M15477; AAA30579.1; -. PIR; A01842; IVBOB1.
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15-JUN-2002 (Ref. 41, Last annotation update)
Interferon beta-1 precursor.
                                                                                                                                                                                                                  CARBOHYD
                                                                                                                                                                                                                                                                              SIGNAL
                                                                                                                                                                                                                                                                                             Cytokine; Glycoprotein; Antiviral; Multidene family; Sidnal.
                                                                                                                                                                                                                                                                                                                 PROSITE; PS00252;
                                                                                                                                                                                                                                                                                                                               SMART; SM00076;
                                                                                                                                                                                                                                                                                                                                              ProDom;
                                                                                                                                                                                                                                                                                                                                                            PRINTS; PR00266; INTERFERONAB.
                                                                                                                                                                                                                                                                                                                                                                            Plam; PF00143; interferon;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -1- SUBCELLULAR LOCATION: Secreted.
-1- SIMILARITY: BELONGS TO THE INTERPERON ALPHA, BETA AND DELIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BIOLECHNOLOGY 2:458-464(1984).
-1- FUNCTION: HAS ANTIVIRAL, ANTIBACTERIAL AND ANTICANCER ACTIVITIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Loung D.W., Capon D.J., Goodfel D.V.; "The structure and bacterial expression of three distinct bovine interferon-beta genes.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SECUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bukaryota: Metazoa: Chordata: Craniata: Vertebrata: Euteleostomi:
Mammalia: Eutheria: Cetartiodactyla: Ruminantia: Pecora: boxoidea:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -1 - SUBUNIT: MONOMER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID-9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1ENB1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              142 LKKYYENLAQYLESKEYNKOAWTVARAQITJINESELMKUTASIKD 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                122 LKRYYGRILHYLKAKEYSHCAWTTVRVEILRMTYRTNRLTGYLRN 166
83 VLQHIRDILIREFSSTGWSETTIESTLERELEWQMXXXQFSQKBERGKQXSTEISCIVE H 141
                              62 MIQNITATERGESTICENHUTTVENLLANVEHGERHERTVILLERLIKKBOFORGAGNSSTHOLD
                                                                23 SYSTERBÜÜRÜSTKELÜKTTÖÖLTESTESIBITEARMIREMBÜRÜÜRÜREÜKEDATLAMYE 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            83 MLQQTENILTRDESSTGMSETTIEDLLVELYGGMNKLQPTQKEIMQEQNEIM3D-ITVLH 14:
                                                                                FAMILY
                                                                                                                                   84.
                                                                                                                                                                                                                                                                                                                                              PD000550; Interferon_abd; 1.
                                                                                                                                                  Similarity
                                                                                                                                                                                                 186 AA;
                                                                                                                                 Conservative
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                                                                                                                                                                                                                                                                                                                               IFabd;
                                                                                                                                                                                                                                                                                                              INTERFERON_A_B_D; 1
                                                                                                                                                                                                                                                              186
                                                                                                                                                                                                 22195 MW;
                                                                                                                                               49.4%;
50.9%;
                                                                                                                                 (6) Mismatches
                                                                                                                                             Score 430 %;
Pred No. 2.7
                                                                                                                                                                                            N-LINKED (GLONAT, . . .) (FOTENTIAL), N-LINKED (GLONAT, . . .) (FOTENTIAL), FU060007EA415H9C CRO64;
                                                                                                                                                                                                                                                PROHABLE
                                                                                                                                                                                                                                                              INTERFERON HETA-1.
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                                                                                                                                                 2.70-29;
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                                                                                                                                 Indels
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122 EKRYYGRIEHYLKAKEYSHCAWETYRVITTERMEYRTNRUZGYLRN 166

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142 LGKYYENIMQYLESKEYDROAWTVVQVQILITNVSELMRITGYVRD 186

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INB_MOUSE
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Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hidashi Y., Sokawa Y., Watanabe Y., Kawade Y., Ohno S., Takacka C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDITINE-83265757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID-10090;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-88196115; PubMed=3360010; Civas A., Fournet B., Coulombel C. le Roscouet D., Houvault A., Petek F., Montreuil J., Doly J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   void)dani G , Coulombel C., Doly J.;
"Structure and characterization of a murine chromosomal fragment
containing the interferon beta gene.";
J. Mail Birl. 264-271 281(1988)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Nucleic Acids Res. 17:3291-3291(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE 89263735; PubMed 2726460;
Koqa T , Fujita T , Taniquchi T.:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Purification and carbohydrate structure of natural murine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDSLINE 89125582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Structure and expression of a cloned cDNA for mouse interferon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Taniquehi T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21-JUL-1986 (Rel. 01, Last sequence update)
15-JUN-2002 (Rel. 41, Last apporation update)
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                                                                                                                                                                                                                                                                                               X-EAY PRYSTALLOMEAPHY (2 6 ANGSTROMS).
MEDILINE-92371425; PubMed-T505514;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     interferon-beta."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRUCTURE OF CAPBOHYDPATES
                                                                                          J. MOI. BIOL. 253:187-207(1995).
-!- FUNCTION. HAS ANTIVIRAL. ANTIPACTERIAL AND ANTICANTER ACTIVITIES
                                                                                                                                        Senda T., Saitoh S.-1., Mitsui Y.;
"Refined crystal structure of recombinant murine interferou-beta at
                                                                                                                                                                   X-RAY CRYSTALLOGRAPHY (2.15 ANGSTROMS).
MEDLINE 96028219; PubMed-7473712;
                                                                                                                                                                                                                                                                                                                                                                             Shimizu H., Mizuno H., Mitsui Y.;
                                                                                                                                                                                                                     EMBO J. 11:3193-3201(1992)
                                                                                                                                                                                                                                                                   Nakamura K.T., Mitsui Y.,
                                                                                                                                                                                                                                                                                  Senda T., Shimazu T., Matsuda S., Kawano G., Shimizu H.,
                                                                                                                                                                                                                                                                                                                                             "Three-dimensional structure of recombinant murine interferon-beta.";
Proc. Jpn. Acad., B, Phys. Piol. Soi. 66-77-80(1990)
                                                                                                                                                                                                                                                                                                                                                                                                           X-RAY CRYSTALLOGRAPHY (2.75 ANGSTROMS)
                              -1- SUBCELLULAR LOCATION: Secreted
-1- PIM: THIS BETA INTERFERON DOES NOT HAVE A DISULPIDE BOND.
-1- SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA
                                                                                                                       2.15-A resolution."
                                                                                                                                                                                                                                                  "Three-dimensional crystal structure of recombinant murine interferon-
                                                                             -1- SUBUNIT: MONOMER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Biol. Chem. 258:9522 9529(1983).
                                                                                                                                                                                                                                                                                                                                                                                                                                         megacia
                                                                                                                                                                                                                                                                                                                                                                                            Matsuda S., Kurihara H., Nakamura K.T., Kawano G.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                           173:311-316(1988)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PubMed-3221389;
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INB_RAT
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Matches 77; Conserv
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EMBL; X14455; CAA32525.1; ...
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ProDom; PD000550; Interferon_abd; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SMART.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pfam; PF00143; interferon;
                                                                                                                                                                                                                                                                                                                      01-NOV-1997 (kel. 35, Created)
01-NOV-1997 (kel. 35, Last seg
15-JUN-2002 (Rel. 41, Last ann
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                              YOKOYAMA S., Ohishi N., Shamoto M., Watanabe Y., Yaqi K.; "Isolation and expression of rat interteron beta dene and drowth: inhibitory effect of its expression on rat difoma cells.":
Biochem. Biophys. Res. Commun. 232:698-701(1997).
-i- FUNCTION: MAS ANI VIKAL, ANTIBACTERIAL AND ANTICANTER ACTIVITIES.
-i- SUBBUNIT: MONOMER (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                            P70499;
                                                                                                                                                                                                                            Eukaryota, Metazoa; Chordata; Cranlara; Vertebrata, Erreleostomi;
Mammalia; Eutheria; Rodentia; Sciuroqnathi; Muridae; Muribae; Raltus.
-1- SUBCELLULAR LOCATION: SECRETED.
-1- PTM: THIS BETA INTERFERON DOES NOT HAVE A DISULPIDE BOND
                                                                                                                                        MEDLINE-97271387; PubMed-9126338;
                                                                                                                                                             STRAIN-Wistar;
                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                             NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                    Rattus norvegicus (Rat)
                                                                                                                                                                                                                                                                                                 Interieron bela precursor (IFN-beta)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 137 HEKSYYWKVQRYEKEMKYNSYAWMVVFAETFFNFTTTFFFTFNFQN 182
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              I MSYNDLAFEGRSANFOOKLINGEROREDYCLKORMBEIG PEETKOLOOFOKEDAAUTTY 60
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2HIF; 31-AUG-94.
1RMI; 14-FEB-95.
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1PR000471; Interteron_abd
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,7; Mismatches
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H LINKED (GLONAC: ...).
BC4C32947EP1P4TT CPC64:
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This SWISS PROF entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Richartermatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                            SEQUENCE CF 167 195 FROM N.A. MEDIJNE H705 6170: FORMED 022599;
HJUMILOT A., Hauptmann R., Adolf G.R., Swelly P.:
"Molecular clouding and expression in Escherichia edited equine type interferens.":
                                                                                                                                                                                                                                                                                                                                                                                                               Equas catallos (Horse).
Enkargeta: Metacoa: Chordata: Craminta: Vertebrata: Enteleconomi;
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                                                                                                                                                                                                                                                                                                                                                                       NCB1 [3x11: 9796;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13 AUG 1987 (Rel. 05, Created)
14 Av3 1987 (Rel. 05, Tast sequence update)
15 JUN 2002 (Rel. 41, Tast amotation update)
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Plam: PF00143; interTeron: 1.
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                                                                                                                                                             SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA
                                                                                                                                                                                                            5:345 356(1986)
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Best Local :
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MEDLINE-87054170; PubMed 3022979;

Minumler A., Bauplinann R., Adolf G.R., Swelly P.;

"Molecular cloning and expression in Escherichia coil of equine type "Molecular cloning and expression in Escherichia coil of equine type "interferons.";
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13-AUG-1987 (Rel. 05, Greated)
13-AUG-1987 (Rel. 05, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Interferon omega: L procursor (Interferon alpha:II 1).
EMBL; A15991; CAA01
PIR; E24912; IVHO21
                    EMBL; M14544; AAA30955.1;
EMBL; A15991; CAA01259.1;
                                                                                                          entitles requires a libense agreement (See http://www.indoor.send an email to libensewist sib.ch).
                                                                                                                                                               modified and this statement is not removed.
                                                                                                                                                                                       the European Bioinformatics Institute. There are no restrictions on use by non-profit institutions as long as its content is in no
                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation
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-1- SUBCELLULAR LOCALION: Secreted
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    (POTENTIAL)

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Best Local
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PEINTS: PE00256: INTERFER-MAB.
Problem: PD000550; Interferon_and: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               30-MAY-2000 (kel. 3), Created)
30-MAY-2000 (kel. 3), Last sequence update)
30-MAY-2000 (kel. 3), Last annotation update)
30-may-2000 (kel. 3), Last annotation update)
Interferon tau procursor (IFN-tau) (Trophobiast protein 1) (TF-1)
(Trophoblastin) (Antiluteolysin) (Trophobiast antiluteolytic protein).
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PROSITE, PS00252; INTURE
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                                                                                                                                                                                                                                          "IFN-tau: a novel subtype I IFN]. Structural characteristics, non-ubiquitous expression, structure function relationships, a
                                                                                                                                                                                                                                                                                                                                     REVIEW.
                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE 99273269; PubMod=10341723; Demmers E.J., Kuluz S., (GJ*(5 F.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCB1_TaxIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cervidae
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota:
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                                                                                                                                                                                     Biochimie 80:755-777(1998)
                                                                                                                                                                                                                                                                                Martal J.L., Chene N.M., Huynh L.P., L'Haridon P.M., Beinaud P.B
Guillomot M.W., Charlier M.A., Charpigny S.Y.,
                                                                                                                                                                                                                                                                                                                                                                                              elaphus.
                                                                                                                                                                                                                                                                                                                                                                                                              "Production of interferon by the conceptus in red deer Cervus
                                                                                                                                                                                                         potentialities."
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FUNCTION: PARACRINE HORMONE PEHMARLY RESPONSIBLE FOR MATERNAL RECYCNITION OF PERCHARLY, INTERACTS WITH ENCOMETRIA: PECEPTORS, RECYCNICITY OF PERCHARLY, INTERACTS WITH ENCOMEDIATE PECEPTORS, PROPARTY TYPE I INTERVERON RECEPTORS, AND PLOCKS ESTROGEN RECEPTOR EXPRESSION IN THE ENCOMETRION. THIS RESULTS IN THE EXPOSENTION OF THE PURPOSE PROMPTPIAL PELPAGE OF THE LUTBOLYTIC HORMONE PECSTAGLANCIA IZ ALTHA, HIMPERING THE PROFESSION OF THE COMPOSE ARE PROPERED AND THEREFORE A PRIPER TO OVASIAN ON THE PROSTAGLANCIA IZ ALTHA, HIMPERING THE PROFESSION ON THE COMPOSE ARE PROPERED OF THE LUTBOLYTIC HORMONE PECSTAGLANCIA IZ ALTHA, HIMPERING THE PROFESSION ON THE COMPOSE ARE PROPERLY THE AND A POSSIBLE DIRECT REPECT OF THE TAY ON PROSTAGLANDIA SYNTHESIS, LEADS IN TUPN TO CONTINUED OVARIAN
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                                                                                                                                                                                                                          hormonal embryonic signal and cross species therapeutic
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BY SIMILARITY.
N LINKED (GLCNAC....) (FOTENTIAL).
1 A810 CCPHA 70AHRF CP184;
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or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SWISS-PET entry is equitable it is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMML outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pfam: PF00143; interferon; PRINTS; PR00266; INTERPREE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FMRL; AJTOOG638; CAA04193.1;
HSSP; P01563; 2HIE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
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                                                                                                                                                                                                                                                                                                            Local Similarity
Was 58, Conserv
98 AAWDTTLLEQLRTGLHQQLDOLDACI GQVMGKEDSDLRRMGETLIVKKYFQGIHVYIQEK 157
                                                                                                                                                  39 ELLOCMU PUSERECIOSPETENTESTEMPONOCIASONI SALIBIMI SONOMI PHTERSS 97
                                                                                                                                                                                                                           19 KILWQLNORL--EYCHKUMMSPTESFIKQI QQDQKEDAALTIYEMIQNIFATERQDSSS 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE SPECIFICITY: CONSTITUTIVELY AND EXCLUSIVELY INDESSID IN THE MONUNUCLEAR CELLS OF THE EXTRA-EMBRYONLO TROPHSTODERM. DEVELOPMENTAL STAGE: MAJOK SECRETORY THE KODICHT SYNTHESIZED BY THE CARGETTG SUSTING A VERY STAGET FERIOR IN EXELY IPEDIANNY.

MISCELLANDERS: IF ALL GRADES ARE INTRONLESS. THEY EVOLVED FROM MISCELLANDERS IN THE RUBLIANNITA SUBGRIDER AND HAVE CONTINUED TO DUPLICATE INDEPENDENTLY IN PIFFERENT ILLPAARS OF THE CONTINUED TO DUPLICATE INDEPENDENTLY IN PIFFERENT ILLPAARS OF THE CONTINUED TO DUPLICATE INDEPENDENT AND DATHFRE OF TEXPERSION.

THEY ENCOUSE FOR PROTEINS VERY SIMILAR IN SEQUENCE BUT WITH LIFERENT HIS COSICAL POTPERT AND PATHFRE OF TXPERSOON.
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                                                                         TOWNET TVENETANAKA OF THE ISSUE OF A PARTICULAR OF THE PARTICULAR 
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1 23 BY SIMILARITY.
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                                                                                                                                                                                                                                                                                                            Conservative
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38 0%;
                                                                                                                                                                                                                                                                                                                                            Score 263.5;
Pred No 2 /
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                                                                                                                                                                                                                                                                                                                                                                                         Length 195;
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HORSE
                                                                                                                                                    P05003;
13-AUG-1987 (Rel. 05, Created)
NCBI_TaxID=9796;
                         Mammalia;
                                            Eukaryota; Metacea;
                                                               Equus caballus (Horse)
                                                                                                          13 And 1987 (Fel. 05, Last sequence update)
15 JUN 2002 (Rel. 41, Last annet rifer update)
                                                                                         Interferon alpha-1 precursor.
                                                                                                                                                                                                      INA1_HORSE
                         ; Entheria: Perissodactyla; Equidae; Equus
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                                            Chordata: Craniata:
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                                               Vertebrata; Euteleostomi;
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                                          SEQUENCE FROM N.A.

MEDLINE 8705 (170) PahMod (022999)

Himmilet A., Bauptmann k., Adolf G.R., Swetly F.,
DNA 5:345 356(1986).
                                                                                                                                                                                   14 ADS 1987 (Rel. 05, Freated)
13 ADS 1987 (Rel. 05, Last sequence update)
15 ADR 2002 (Rel. 41, Last annotation update)
[hterferen alpha ( precursor)
              "Molecular cloning and expression in Escherichia soli of equine type \ell interferons.":
                                                                                                                      NCBL LaxID 9796;
                                                                                                                               Mammalia: Entheria: Perissodactyla: Equidae: Equis
                                                                                                                                              bukaryota: Metazoa: Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                       Equas calallus (Borse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This SWIse real outry is copyright, it is produced through a collaboration between the SWiss Institute of Bioinformatics and the EMBL outstation—the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way medified and this statement is not removed. Usage by and for commercial entities requires allience agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                          INA TERM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Plan: PF00143; interferon;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro: [PR000471; Interferon_abd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           or send an email to license disb sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DNA 5:345 (1986)
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                                                                                                                                                                                                                                                                                                                                                      145 YEGRIALYIGEKKYSECAMETVRAETMRSF 175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "ytokine: Antiviral; Multigene tamily; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Rounter A., Hamptmann R., Adolf G.R., Swetly P.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
MEDLINE 87058170; PubMod 8022999;
                                                                                                                                                                                                                                                                                                                                                                                      12' YYORTLHYLKAKEYSHCAWTTVRVETLRNF 154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          40 LIGOMKRISPES:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FUNCTION: PRODUCED BY MACROPHAGES, IFN-ALPHA HAVE ANTIVIRAL ACTIVITIES, INTERFERON STIMILATES THE PRODUCTION OF TWO ENZYMES. A RECEITER BURNES AND AN OLIGORIEMYLATE SYNTHETASE.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     NIFATERODSSSTOWNETTVENLLANVYHQINHLKTVLEEKLEKEDETRGALMSSLHUKR 124
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 262;
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Hest Local Similarity
                                                                                                 SEQUENCE FROM N.A.
MEDILINE 87053170: PubMed-3022999;
Himmier A., Hauptmann R., Adolf G.R., Swetty P.;
"Molecular cloning and expression in Escherichia coli of equine type
-!- SUBCELLULAR LOCATION: Secreted.
-!- SIMILARITY: BELONGS TO THE INTERPERON ALPHA, HEFA AND DELIA
                                                                       - i -
                                                                                                                                                                                                         Equus caballus (Horse).
Eukaryota: Metazoa: Chordata: Ciuniata: Vertebrata: Enteleostomi:
Mammalia: Eutheria: Perissodactyla: Equidae: Equus.
                                                                                                                                                                                                                                                                     P05006;
13-AUG-1987 (Ref. 05, Created)
13-AUG-1987 (Ref. 05, Last sequence update)
15-JUN-2002 (Ref. 41, Last amodation update)
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                                                                                                                                                                                                  NCBI_TaxID-9796;
                                                                                                                                                                                                                                                                Interferon alpha-4 procursor.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             use by non-profit institutions as lond as its content is modified and this statement is not removed. Usage by and to entities regulres a license parametal (see lift) [See 1.1] or send an email to license—lisb sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CHAIN
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                                                                                                                                                                                                                                                                                                                                                  INA4_HORSE
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                                            5:345-356(1986).

FUNCTION: PRODUCED BY MACKOPHAGES, TEN-ALPHA HAVE ANTIVIKAL ACTIVITIES. INTERPERON STIMULATES THE PRODUCTION OF TWO ENG.
                                   A PROTEIN KINASE AND AN OLIOPADENYLATE SYNTHELASE
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SIMILARITY: BELONCS TO THE INTERFERON ALPHA, BETA AND DELIA.
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84
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                                                 TWO ENERMES
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RESULT 15
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            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                     MEDLINE-87053170; PubMed-3022999;
Himmler A., Haupfmann R., Adolf G.R., Swetly P.;
"Molecular clouing and expression in Eschorichia coli of equino type
[ interferons.";
DNA 5:345-356(1986).
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                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                           Eukaryota: Metazoa: Chordata: Craniata: Vertebrata; Euteleostomi;
Mammalia: Eutheria: Perissodactyla: Equidae: Equus.
MCHL_TaxID=9796:
                                                                                                                                                                                                                                                                                                                                                                Equis caballus (Horse)
                                                                                                                                                                                                                                                                                                                                                                              1 * ANG-1987 (Ref. 05, Created)
13 * ANG-1987 (Ref. 05, Last Sequence update)
15 * JUN-2002 (Ref. 41, Last annotation update)
Interteron alpha-2 precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         P05004;
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HSSP: P01563; 2HIE.
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                                                                                                                      FUNCTION: PRODUCED BY MACROPHAGES, IFN-ALPHA HAVE ANTIVIRAL ACTIVITIES, INTERFERON STIMULATES THE PRODUCTION OF TWO ENZYMES: A PROTEIN KINASE AND AN OLIGOADENVIATE SYNTHETASE. SUBCELLULAR LOCATION: Secreted.
                                                                                                   SIMILARITY: RELONGS TO THE INTERFERON ALPHA, BETA AND DELTA
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non-profit
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   institutions as long
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36.7%, Fred. No. 3c-15:
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Pfam; PF00143; Interferon; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        or send an email to licensegisb-sib.ch).
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                                                                                                                  125 YYGRILHYLKAKEYSHCAWTIVRVEILRNF 154
                                                                                                                                                                                                                                                                          86 QIFHLESTORSSAAWIESIJAERTY FOLYOOTTEI FAOT SOFVOVEETPLMNEDSIJJAVRE 145
                                                                                                                                                                                                                                                                                                                                                    65 NIFATERODSSSTOWNETIVENILLANVYHQINHLKTVLEEKLEKEDFTROALMSSLHLKG 124
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162 B
20877 MW;
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35.7%;
        2003, 09.52:46
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time : 9 secs

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OM protein - protein search, using sw model

Run on:

May 6, 2003, 09:50:43; Search time 27 Seconds (without alignments)

Fittle:

US-09-832-658A-25

Pertect score: 872

Sequence:

1 MCHHLIFLGESCHECCIK:

Secring table:

BLOSUM62

Gapop 10.0, Gapext 0.5

Searched:

283224 seqs, 96134422 residues

Total number of hits satistying chosen parameters:

283224 Minimum DB seq length: 200000000

Maximum DB seq length: 2000000000

Post-processing Minimum Match 03

Listing first 45 summaries

Database:

PIR_73:*

1: pir::*
3: pir2:*
3: pir2:*
4: pir4:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

No.	лін	er 191	7   5	1 Bd	ID	Description
N -	4 1 1 1 1 1 1 1 1 1 1	ე დ ე დ 	981 81	<b>⊢</b> -	IVHUBI	interferon
w r			186		I ROHAI	interferon
4-			186	-	IVBOB3	interferon
Un i	2	٤.	186	$\vdash$	IVBOB1	interferon
<u>ب</u>			182	_	IVMSB	interferon
7			184	U	JC5424	interferon
œ	291		195	-	IVHO22	interferon
Ç	270		195	_	1VHO21	interferon
<u>-</u>	565 243		184	μ-	IVH∩A4	interteron
	262		184	1	IVHOA3	interferon
12	262		184	<b>→</b>	IVHOA1	interferon
<del>-</del>	25#		.184	_	ZWOHAI.	intelfection
14	257		195		TIDHAI	interferon
ូច	255 5 5		195	,_	110HA1	interferon
16	65 71		195	N	146398	interferon
17	J.	29.0	195	~	S70011	interferon
æ	253		195	Ŋ	146974	interferon-omega4
14			165	ы	178570	alpha
20			189	_	910HA1	interferon
t	15.5 15.5 15.5		581	ij	147584	1FN-alpha-
22	251.5		188	j	IVHUA2	interteron
23	251		172	ы	A61578	trophoblas
24	251		195	N	146975	interferon-omega20
25	251		195	ы	146972	interferon-omega4
26	4		195	N	A61455	trophoblas
27	4		195	2	JS0204	trophoblas
t.,	124.7		189	,	7 VHÜA7	interferou
ا ر 9			195	J	A5.746	interferon,

a replacement a special section of the contract of the contrac	2 146272	195	27.4	238.5
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	I TUHVI I	189	27.4	239
Associated agreement of the control	2 A40068	195	27.6	240.5
control territorial	2 B39505	195	27.6	240.5
	2 152347	189	27.6	240.5
THE CONTRACT OF STREET	2 153102	189	27.8	242.5
	1 IVHUAO	681	27.8	ы : : : : : : : : : : : : : : : : : : :
tanding no los to 101	1 IVHU4B	189	27.8	242.5
regarded to the season of the	2 F25845	167	27.8	242.5
	2 T4639/	195	27.9	243
a violation control of 1	2 14/09/	195	27.9	243.5
	2 147056	195	27.9	245.5
the property of the control of the c	2 147(158	195	27.9	243.5
The state of the s	2 \$23751	195	27.9	243.5
Crophoblast into	5 Variable	195	27.9	243.5
	2 A51403	CAT	28.0	244

## ALIGNMENIS

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Astitle: The structure and bacterial expression of three distinct boyine interferon beta
Asketerine number: A90097
Asketesion: A61840
Asketesion: A61840
Asketidnes: I-186 - LED -
C2Supertamity: interferon alpha
                                                                                                                                                                                                                                                                                                                                                      "PARTESSION: A01840
Pricent, D.W.: Capon, D.T.: Gooddel, D.V.
PricyTechnology 2, 458-464, 1984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A:Molecule type: mKNA
A:Pesidues: 71-161, YY.163-187 - SHE:
A:Pesidues: 71-161 - Softee: variant, clone pE526
A:Note: the loss of Cys 162 (and of the ability to form the essential disulfide bond) in E015 summ. J.: Mizuno, Y.: Hosoi, K.: Okano, K.: Sawada, R.: Kajitani, M.: Sakai, I.: Name E015 - J.: Mizuno, Y.: Hosoi, K.: Okano, K.: Sawada, R.: Kajitani, M.: Sakai, I.: Name E015 - J.: Mizuno, Y.: Hosoi, K.: Okano, K.: Sawada, R.: Kajitani, M.: Sakai, I.: Name E015 - J.: Mizuno, Y.: Hosoi, K.: Okano, K.: Sawada, R.: Kajitani, M.: Sakai, I.: Name E015 - J.: Mizuno, Y.: Hosoi, K.: Okano, K.: Sawada, R.: Kajitani, M.: Sakai, I.: Name E015 - J.: Mizuno, Y.: Hosoi, K.: Okano, K.: Sawada, R.: Kajitani, M.: Sakai, I.: Name E015 - J.: Mizuno, Y.: Hosoi, K.: Okano, K.: Sawada, R.: Kajitani, M.: Sakai, I.: Name E015 - J.: Mizuno, Y.: Hosoi, K.: Okano, K.: Sawada, R.: Kajitani, M.: Sakai, I.: Name E015 - J.: Mizuno, Y.: Hosoi, K.: Okano, K.: Sawada, R.: Kajitani, M.: Sakai, I.: Name E015 - J.: Mizuno, Y.: Hosoi, K.: Okano, K.: Sawada, R.: Kajitani, M.: Sakai, I.: Name E015 - J.: Mizuno, M.: Mizuno, 
C:Keywords: glycoprotein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                interteron beta 2 precursor - bovine
*25Species: Bos primia-minas taurus (cattle)
*Cibate: I5 Nov 1984 #sequence, revision 15 Nov 1984 #text_change 07-Feb-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A: Fille: on the relationship between human interferon alpha-1 and beta-1 genes. A:Reference number: 156:815; MUID:860:35565; PMID:2414:76
A:Accession: 150:415
A:Accession: preliminary; translated from GR/PMRG/DRR1
A:Molecule type: mRNA
A:Residues: 1 187 - RES -
A:Cross references: GR:M28622; NID:g184624; PIDN:AAA:6040.1; PID:g184625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ç.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A:Map position: '921 '921
C:Supertamily: interferon alpha
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A:Mesidnes: 22 187 -UIS
R:May, L.I.: Sehgal, P.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A:Reference number: $04479; MUID:89276336; PMID:2731537
A:Accession: $04479
A:Status: profimiliary
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Nature 289, 605-607, 1981
Actifies Assignment of the disulphide bonds of lankocyta interferon
Ackelerance number: A94244: MOLD:B1123083; PMID:6162107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F152 162/Disultide bonds: #status predicted
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Addition A single amino acid change in FEN beta-1 abolishes its antiviral activity. Addeterence number: A93269; MUID:82080683; PMID:6171735
Adarcession: A93269
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Astross reterences: GDB:120522; OMIM:147640
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Rest Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14.2 HUKPYYGH HERYLKANEESSID AMT UNIVERSIDIND YF INKLIGYERIN 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 HLKRYYGRILHYLKAKEYSHTAWTIVRVEILRNFYRINRLFGYLRN 166
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Pred, No. 7.20-64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2: Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              F:1-21/Domain: signal sequence #status predicted .SIG-
F:22-186/Product: interteron beta-1 #status predicted .MAI-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C: Keywords: antiviral, alycoprotein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A:Cross-references: GB:M14546; NID:q164228; PIDN:AAA30954.1: PID:q164229 C:Superfamily: interferon alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A:Title. Molecular closing and expression in Escherichia colict equinc type I intert A:Reterence number: A90956; MUID:87054170; PMID:4022999
A;Accession: G24912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R; Himmler, A.; Hauptmann, R.; Adolf, G.R.; Swetly, P.
DNA 5, 345-356, 1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         interferon beta-1 precursor—horse
N;Alternate names: EqIFN beta-1; 'ype 1 interferon
C;Species: Equus caballus (domestic horse)
C;Date: 28 Dec 1987 #sequence_revision 28 Dec 1987 #text_change 22.Jun 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          망
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: mRNA
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F:22-186/Product: interferon beta 2 *status predicted -MAI.
F:52-161/Disulfide bonds: *status predicted
F:131,173/Binding site: carbohydrate (Asn) (covalent) *status predicted
1 VBOB ₹
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                                                                                                          141 REKKYYGRISOYEKAKKYSHCAWIYYQAEMERNEAFENGLIDYEÇN 185
                                                                                                                                                                  12) HEKRYYCKIEHYEKAKEYSHYAWCIVRVEIEKKIYKINKEFOYEKN I66
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           122 LKRYYGRILHYLKAKEYSHCAWTIVRVEILKNIYKINRLIGYLR 165
                                                                                                                                                                                                                                                      6) EMILANTATEGESSATAMBETTVERHAAMVEHETINGGEAVILLISELEERIFINGALMSSE 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity 58.4%; Pred. No. 2.be-32; hes 97. Conservative 27. Mismatches 41; Indels 3; daps
                                                                                                                                                                                                                       82 EMIJHTWKTEKKNEASTGWNEITVKNILLVEVHIJMBGLEINLERIMEEESSTWAN (111, 14 o
                                                                                                                                                                                                                                                                                                                                              22 VNYDLÍRGOJŘEŠNEACIMIJEJO PARIJEJIMINEJVPEKTEJAJJEJEKEDALVIV 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       83 MIQQTENTLTRDESSTGWSETIIEDLLEELYEQMNHLEPIQKEIMQKQNSIMGD-ITVLH 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            62 MIGNIFALFRODSSSTOWNELLVENLLANVYHGINHLKIVLEEKLEKEETIKOALMSSIH 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23 SYSTERFORRESTATION FOR THE FOREST ARMS OF THE TRANSPORT OF THE ACCUSED BY
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A:Title: The structure and bacterial expression of three distinct bovine interferon b

K. Leung, D.W.; Capon, D.J.; Gooddel, D.V. Bio/Technology 2, 458-464, 1984

C; Accession: A01841

A;Reterence number: A90097 A;Accession: A01841 A;Molecule type: DNA A;Residues: 1-186 <LEU>

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AvFitle: The Structure and bacterial expression of three distinct bowing interferon-botd Aphriorons number. Against Asharones number: Against Asharones number: Against Asharones number: DNA Asharones: 1-186 < LEUV Asharone
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C:Species: Bos primigenius taurus (cattle)
C:Date: 15-Nov-1984 #soquence_regision 15-Nov-1984 #foxt_change (7-Peb-1997
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C; Keywords: alycoprotein
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52.7%; Pred. No. 5.2e-30;
1500 25; Mismatchos 42; Indels 1
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interferon beta precursor - rat
C:Species: Rattus norvegicus (Norway rat)
C:Phic. 10 Jun 1997 #sequence_reliates 18 Jul 1997 #tewt__bank 29 Jun
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C.Keywords: glycoprotein
P.1-21/Domain: siqumal sequence #status predicted <SIG·
P.20 182/Froduct. Interferon beta #status predicted <MAT:
P.20 180/Froduct. Interferon beta #status predicted <MAT:
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                                                   A:Cross-references: EMBL.X14455, NID.q51538; PIDE(CAA32625.1, PID.q51539
F.b.q355i, Y., 364343, Y., Watanabe, Y., Bawade, Y., Ohao, S., Tahacka, C.: Taniqueh
J. Riol Cham 258, 9522-9529, 1983
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F:1-21/Domain: signal sequence #status predicted <810>
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A; Rosidues: 1:184 < YOK>
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Blochem. Blophys. Res. Commun. 222, 698-701, 1997
A.Title: Esolation and expression of rat interferon beta gene and growth-inhibitory
A.Beference number, JC5124, MUID.97271387, PHID.9126-88
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A: Rasidios. 1 182 cHIG:
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Arkedetence nuclear, 3:4401, MCID:89263735, PHB:2726460
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R:Kuga, T.; Fujita, T.; Taniquehi, T.
Mueleic Ands Res. 17, 3291, 1989
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78 EMEQNVELVERNNESSTGWNETIVVRLLDBEHQQTVFLKTVLEEK QEERLIWEMSSTAL 136
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C)Keywords: intivital; algorphotein
E) ZA/Domaio: signal sequence estatus predicted (SIG)
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A:Residues: 1 195 - HIM -
A:Pross references: CB:M14545; NID:q164217; PICH:AAA:0949.1, FID:q164220
                                                                                                                                                                                                      E:101/Binding site: curbohydrate (Asb) (covalest) #status predicted
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C:Superfamily: interteron alpha
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14.3. VERVERGHELYLE 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 | 101 
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   122 DEFYYDE ILHTLEAREN SHFAWT LYRYR ILENEYE INELLIGY LE 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               hes 55; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 83 MIQQIESTEHTERSSAAWNTTLIDELCTGILLRQLEDIDTCLEQEMGEEESALGTVRPTLA 142
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 STALLSTEIGH SSAFEG GELLWOLMSRUENCLABRANTB LYEB LAGLOGF GEBBAALTIYE - 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MIGNIFATERGESSSTOWNETIVENCLANVYHQINHEKTVEEFKLEKEDETEGALMSSLH 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VMIQNVELVERSNESSTOWNETTIVESTABLEHOGTELLETTIKEK-GEERLTWVTSTTTL 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMIGNIFALERODSSSTOWNETTVENLLANVYHOLNELKTVLEEKLEKEDETECALMSSL 120
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          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                              31.0%; Score 270; DB 1; Length 195;
41.0%; Prod No. 40.15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              47.4%;
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               260
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Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               56.
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          Gaps
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F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-184/Product: interteron alpha-1-3 #status predicted <MAI-
F;24-122,52-162/Disuifide bonds. #status predicted
                                                               C,Keywords: antiviral F;1-23/Domain: signal
                                                                                                             A.Cross references. CB.M14542, NIS.4164222, FIGH.AAA30751.1, C.Superfamily. interferon alpha
                                                                                                                                                                                                                                      A)Reference number: A90956; MUID:87053170; FMID:/022999
A;Accession: C24912
                                                                                                                                                                                                                                                                                                                                                                                                            N:Alternate names: EgiFN-alpha-1-3; type I interteron
C:Species: Equus caballus (domestic horse)
C:Eule: 28 Dec 1987 #sequence_revision 28-Dec-1987 #text_change 18-Jun-1999
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F;24-184/Product: interferon alpha-1-4 #status predicted <MAT
F;24 122,52-162/Disulfide bonds #status
                                                                                                                                                                            A; Residues: 1:184 < HIM>
                                                                                                                                                                                                          A; Mulecule type: DNA
                                                                                                                                                                                                                                                                                               Affitte: Molecular cloning and expression in Escherichia coli of equine type I interf
                                                                                                                                                                                                                                                                                                                              R; Himmler, A.; Hauptmann, R.; Adolf, C.R.; Swetly, P
DNA 5, 345-356, 1986
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A;Peference number: A90956; MULD:87053179; PMLD:8022999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R:Himmler, A.: Hauptmann, R.: Adolf, G.R.: Swetly, P DNA 5, 345-356, 1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         interferon alpha-1-4 precursor - horse
N;Alternate names: EqIFN-alpha-1-4; type I interferon
C,Species. Equus caballus (domestic horse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Дb
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                                                                                                                                                                                                                                                                                                                                                                                    C; Accession: C24912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A, Oross: references. 38.M14543, WID.4164224, PIDM.AAA30952.1, PID.4164225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Molecule type: DNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    interferon alpha-I-3 precursor - horse
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       172 MRSFSSSANLOGRL 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             151 LRNFYRINRLTGYL 164
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             86 QIFHEFSTDGSSAAWDESLEDKLYTGLYQQLTELEACLSGEVGVEETFIANHEGGEAAVRR 145
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 52 CLKHRTDFRFPQEQLDGRQFPEAQATSVLQEMLQQIVSLFHTERSSAAWNTTLLDKLLAG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5 EEGETDESS NAGGODES LEWEL NOT LEVOLKOFMNET LEES LEGEDON FOR BOANLT LEBMIN. 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YFQRITLYLQEKKYSPCAWEIVRAEIMKSF 175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NEEALERQUSSSIGWNEIIVENLLAMVYHOLNELKLYLLEKKLEKERE EKGALNSSEHEKK. 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 184
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 262; DB ...
No. 1.3e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 1; Length 184
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Interferon alpha-I-2 precursor - horse
WARITECTURE names: EqIFN-alpha I 2, type I interferon
CISpecies: Equis caballis (demostic borse)
CISpecies: Bana asequence_recision 28:Dec 1087 #fext_change 18-fun-1000
CIAcression: 824912
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P:24-184/Product: Interferon alpha-1-1 #status predicted <MAIS
P:24-123 52 (C), Tis.1834- Fed.3 #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R; Himmler, A.: Haupti
DNA 5, 345-356, 1986
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N:Alternate names: EqIFN-alpha-I-1; type I interferen
C:Species: Equus caballus (domestic horse)
C:Eare - 28 Ear | 1987 | #seqiashes_Isrision | 28 Dec | 1987 | #text_change | 18 Jun | 1999
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              Cosuperfamily: interferon alpha Coskeywords, antiviral Followers in Figural sequence:
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A:Reterence number: Armass MIIID-87063[70] PMID:2023999
A:Accession: B24412
A:Molecule type: DNA
A:Residues: 1-194 - HIMA
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Apeross-references or M14540, HIE gl74125, FIDA AAA73352.1, FID-3164227
CoSuperfamily: interferon alpha
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       Figual sequence #status predicted ::STC
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19; Mismatches 52;
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Foldotte, P. Mouster-Forgy, Folking Type, Type Of Santoli, K.
J. Biol. Chem. 265, 9290-9295, 1990
A.Title: Purification and characterization of Satural human interferon omegal. Two A.Reforence number: A35299; MCID:90264422; FMID:169/148
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A:Experimental source: clane 87509, Numera: clis (h. an accident's lymphorn colle) in R:Adolf, G.R.; Fruchbeis, B.; Hauptmann, R.; Kalsnor, I.; Maurer-Fody, I.; Ostermann, Biechlam, Biophys. Acta 1089, 167-174, 1991

A:Title: Human interferon omega 1: isolation of the gene, expression in Chinese hamst A:Reference number: 816174; MUID:91274345; PMID:1617209
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A;Experimental source: leukorytes
A;Experimental source: leukorytes
A;Note, evidence for two amino (cuminals, algressylation
A;Note, K; Foga, I; Hayashi, S; Matsuo, A;; Hirutani,
B;Oshem Biophys Ros Commun. 168, 16-21, 1990
A;Title: Existence and unique N terminal sequence of alpha I; (omesa)
A;Reference number: A34618; MUID:90226353; PM:D:2158314
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A.Experimental source, fetal liver
E.Baupthmann, R., Swelling, P.,
Nucleic Norlds now in Argon 1940
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A; Residues: 1 195 < ADO1>
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A:Besidues, 22 l
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ArTitle: A novel class of buman type I interferens
ArReference number A93573, MOTO 85263635, EMILJ8
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C:Date: 28.Dec:1987 #sequence_rovision 17-May:1996 #text_change 08-Dec:2000 C:Date: 28.Dec:2000 C:Da
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N.Alternate names: IFN-omega-1, interferon alpha II 1 (IFN-alpha-II 1); type I interf
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51. 5, 768-779, 1985
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                                                                       interteron
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interferon alpha II | precursor - bovine
M.Alternate names: BolFM-alpha II-1; BoJFM-omega-1
C.Species: Bos prinippaints faurus (cattle)
C.Darte: 28 Dec 1982 #sexpence.revision 28 Dec 1987 #text_change 22-Jun-1999
C.Acrossion: B.2385
Refugen, D.J.: Shepard, H.M.: Gorddel, D.V.
Mol. Cells Biol. 5, 768 779, 1985
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E:24/195/Product: interferon alpha II-1 #status predicted <MAI>
E:24/122,52/162/Disultide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C:Keywords: antivital
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A:Fitte: Two distinct tamilies of human and bovine interferon-alpha genes are coordinate A:Reterionee number: A94070; MUID:85187974; PMID:2985969
A:Accession: E4.2286
A:Molecule type: UNA
A:Residues: I 195 - CAP
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F3.1 Al/Homoaln: sional sequence #status predicted <SIG>
F3.2 195/Product: interteron omega-1, long form #status experimental <MATI>
F3.24 195/Product: interteron omega-1 #status experimental <MAT2>
F3.24 125/52 163/Disollide bonds: #status predicted
F3.01/Rinding site: curbshydbate (Asn) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cosupertamily: interferon alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Apriloss references: GB:M11002; NID:q163177; PIDN:AAA30578.1; PID:q163178 A:Experimental source: pancreas
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A:Molecule type: protein
A:kesidnes: 22 8 -SHI
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                                                                                                                     98 AAWDTTLLEGILTGLHQQIDDIDACIGLTGEEDSALGRTGPTLAMKRYFQGIHVYLQEK 157
                                                                                                                                                                 77 FEWNETIVENIAANVYHOINHIKIVLEEKLEKEDEIKIALMSSLELKKYYGKILHYLKAK 136
                                                                                                                                                                                                                                       39 KLLOOMR KLSPRETLODRKDEAFPOEMVEVSOFOFAQAISVLHEMLOOSENI FHKERSS 97
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US-09-26-132-9
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US-09-26-13-14
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Sequence
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PHOTY MATCH BEST LOCAL SIMILARITY 98.8% FOOL 879, FR 4, Length 166; BEST LOCAL SIMILARITY 98.8% PROED NO. 2.50-85; MATCHES 164, COLSCIVATIVE 0, HISENTEROS 2; Indels 0; MATCHES 164, COLSCIVATIVE 0, HISENTEROS 2; Indels 0; MATCHES 164, COLSCIVATIVE 0, HISENTEROS 2; Indels 0; MATCHES 164, COLSCIVATIVE 0, HISENTEROS 10, 10, 11, 11, 11, 11, 11, 11, 11, 11,	RESULT 1  US-09-397-992A-7  Sequence 7, Application US/09397992A  Fatcal Ho. 6329175  GENERAL INFERMATION: APPLICANT: Conklin, Darrell APPLICANT: Crant, Francis J. APPLICANT Firston Wark W. APPLICANT FIRSTON WARK W. APPLICANT FIRSTON WARK W. APPLICANT FIRSTON HUMBER INSTANCE OF SEPERMEE: 98-46  FIRST SEPERMEE: 198-46  FIRST APPLICATION HUMBER INSTANCE FIRSTON APPLICATION WIMPER - 607/11,012  PRIOR APPLICATION WIMPER - 607/142,766  PRIOR APPLICATION NUMBER - 607/142,766  PRIOR FILING DATE: 1999-07-08  NUMBER OF SEQ ID NOS: 38  SOFTWARE: FASTSEQ FOR WINDOWS Version 3.0  SEQ ID NO 7  LENGTH: 166  FYPE: PRT  OPGANISM: Homo Sapiens	ALIGNMENTS	28 363.5 41.7 156 4 US-09-487-792-20 29 271 31.1 238 4 US-09-487-792-3 30 271 31.1 245 4 US-09-487-792-6 30 271 31.1 245 4 US-09-487-792-6 31 261 29.9 166 3 US-09-379-434-13 32 261.5 29.9 208 4 US-09-379-434-1 35 258 29.6 166 3 US-09-819-348A-1 36 259 29.5 195 1 US-09-819-348A-1 36 257 29.5 195 1 US-09-206-937-434-1 37 257 29.5 195 4 US-09-206-938-1 38 257 29.5 195 4 US-09-206-938-2 39 257 29.5 195 4 US-09-206-938-2 41 256.5 29.4 193 4 US-09-487-792-9 42 256.5 29.4 193 4 US-09-207-992A-29 43 256.5 29.4 193 4 US-09-207-992A-29 44 256.5 29.4 208 4 US-09-206-993A-1 45 256.5 29.4 208 4 US-09-206-993A-1
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, ANTELICANT. SUBARC, HARDE, MURAMARCH, MASAMISTANIGHCHI, STADATSHOU
; TITLE OF INVENTION: DNA AND RECOMBINANT PLASMID

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                                                                                                                                                                                                                                                                                                                                                                                              Gory Match 98.5%; Score 859; DB 4; Length 187; Best Local Similarity 98.8%; Prod. No. 2.9e-85; Matches 164; Conservative 0; Mismatches 2; Indels
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APPLICANT: Chen, Jian
APPLICANT: Wood, William I.
APPLICANT: Zhard, Bond Xido
LITTLE OF INVENTION: N AVEL TYPE I INTERFERONS
FILE PETERENN'E: P1224 2R1
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FILING DATE: US MAR 1995
PRIOR APPLICATION DATA:
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                                                                                                                                                                       121 HERPYYMEITHYLKAKEYSH 'AWFIVRVEITANFYRINKLTGYEN 166
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                                                                                                                                                                                                                      82 EMIGRIFATERQUISSIGWNETTVENILLANVYHQINHLKTVLEEKLEKEDEIRGKLMSSL 141
                                                                                                                                                                                                                                                             61 EMIGNIFATERODSSSTEWNFTTVENLLANVYHOTNBLETVFFFFLEKEDFTROALMSSL 120
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                                                                                                                                                                                                                                                                                                            22 MSYNLLSBLUKSSNEGSGKIIWGLNSBLEYSTKIEMNEDIPEEIKGLUGEGKBDAALTIY 81
                                                                                                                                                                                                                                                                                                                                 61 EMIQNIFATERQDSSSTOWNETIVENILANVYHÇINHIKTVLEEKLEKEDFTRGALMSSL 120
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INFORMATION FOR SEQ 1D NO
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AFILICANT: Heartlein, Michael W.
APPLICANT: Hauge, Brian M.
APPLICANT: Selden, Richard F
                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 05-NOV-1992
ATTORNEY/AGENT INFORMATION:
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APPLICATION NUMBER:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
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APPLICATION NUMBER: US 07/911,533
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PRIOR APPLICATION DATA:
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                     121 HLERYYGRICHYLKAKEYSHCAWTTVRVDILKMIYRIMRITGYLRN 166
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                                                                              61 FMLQNIFALFRQDSSSTOWNETTVERILLANVYBQTNBLKTVLLEEKLEKEDETBOALMESE 120
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                                                           82 EMLQNIFALFRODSSSTGWNETIVENLLANVYHOINHLKTVLEEKLEKEDFTRGKLMSSL 141
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                                                                                                                                            22 MSTNILGFIGESSNEGFORLINGLNIRLEYFLKTRMNEFFEREIRGIGGEOREDAALTIY 81
                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY:
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                                                                                                                                                                                     1 MSYNTLGTTQRSSNPQQQKLLWQLNGRLEYGLKDEMNFDFFEETKQLQQFQKEDAALTTY 60
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05-NOV-1992
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                                                                                                                                                                                                                                                98.5%; Score 859; DB 4; Length 187; 98.8%, Prod. No. 2.9c-85;
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                                                                                                                                                                                                                                                                                                                                                                                   ; ORGANISM: Homo sapiens
US-09-206-935-7
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Patent No. (290010
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LITTLE OF INVENTION: BUMAN INDERFURON EPSILON: A TYPE I INTERFERON
FILE REFERENCE: Pl2/IR2 (110d)
CURPENT APPLICATION RUMBER: 085/09/202,122
CURRENT FILING DATE: 1998-08-04
PRIOR FILING DATE: 1998-12-03
RUMBER OF SEQ ID NOS: 12
                                                                                                                                                                                                   Matches 164;
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APPLICANT: Zhand, Doca-Xiao
FITLE OF INVENTION: NOVEL TYPE I INTERPERONS
FILE REFERENCE: 11669.500.005
FILE REFERENCE: 11669.500.005
FILE REFERENCE: 1269.500.005
FILE REFERENCE: 1269.500.005
FARTIER APPLICATION NUMBER - 60,7084,045
EARLIER APPLICATION NUMBER - 60,7084,045
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APPLICANT: Wood, William I.
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NUMBER OF SEC ID NOS: 24
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                                                                                                                                                                                     y Match 98.5%: Score 85%; DB 4; Length 187; Local Similarity 98.9%; Prod. No. 2.9e-85; hrs. 164; Conservative 9; Mismatches 2, Indels 9;
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Local Similarity 98.8%; Prod. No. 2.9e-85;
hes 164; Conservative 0; Mismatches 2; Indels
82 EMILONIFALERODSSSTOWNETIVENI CANVYHOINHUKTVUEEKUEKEEKPETROKI MSSI 141
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; ORGANISM: Homo sapiens
US-09-206-936-7
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; ORGANISM: Homo sapiens
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: SEQ ID NO 7
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APPLICANT: Chen, Jian
APPLICANT: Wood, William I.
LILL of INVENTION, No. 6300175el intercon
File Reference: P1224kl
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// Patent No. 6300475
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Patent No. 643345
                                                                                                                              Onery Match 98.5
Best Local Simularit, 98.8
Matches 164: Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Onery Match 98.8%; Secto 850; DB 1; Length 187; Best Local Similarity 98.8%; Prod. No. 2.96-85; Bedch C. Egs Matches 104, Conservative C. Mismatches 2, Indeb C. Egs
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EARLIER ACTLICATION NUMBER, US 6
EARLIER FILING DATE: 1998-12-08
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EARLIER FILING DATE: 1998-07-21
EARLIER APPLICATION HOMBER: 677/8875/16424
EARLIER FILING DATE: 1999-07-21
NUMBER OF SEQ ID NOS: 54
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TITLE of INVESTIGAT. Keratinocyte berived Interferon
FILE SETHERIPES PRESENT
CHERENT APPLICATION BUREIES, UC/SU/AV7, 792
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TITLE OF INVENTION: TRANSZIEN COMPLEX
FILE REFERENCE: TERPERIA, SEO
CURRENT APPLICATION NUMBER, US/09/215,21
PRIOR APPLICATION NUMBER; 10/2018, 295
PRIOR APPLICATION NUMBER; 10/2018, 295
PRIOR PILLING DATE: 199/12/19
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EL IAYAR, Nabil
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; OTHER INFORMATION: Residues 1-29, signal sequence; 30-239, human IFNAR2: 240-249, clubb INFORMATION: 28-61y450r linkor; 250-415, human IFNbeta 08-09-215-212-14
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 1, Application US/08477310A Patent No. 5814485
                                                                        Matches
                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                                                                                                                                                                                        TELEPHONE: (510) 923-2704
TELEPHONE: (510) 655-3542
INFORMATION FOR SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                              MOLECULE TYPE: protein
                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                             TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-100S/MS-DOS
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                                                                                                                                                                                                                      HADE:
                                                                                                                                                                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CITY: Emeryville
                                                                                                                                                                                                   STRANDEDNESS:
                                                                                                                                                                                                                                   LENGTH:
                                                                                                                                                                                                                                                                                                                                                              REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                     NAME:
                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET:
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1 MSYNLLIGETQESSNEQEQEALLWGLNGSLEVCLKIPMHUTUTGETRQLGGGGGGGGATDAGLTG 60
                                    1 MSYNLLOFLORSSNEGGORLIAWOLNGRIEFFCLKORMNEGTEETROLWOFGEDDAALTTY 60
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                                                                                                                                                                                                                    amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4560 Horton Street
                                                                                                                                                                                                                                 166 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 McAlary, Patrick J.
Wong, Kathleen M.
                                                                        Conservative
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                                                                                                                                                                                  Linear
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                                                                                                                                                                                                   single
                                                                                      98.3%;
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                                                                                                                                                                                                                                                                                                                                                                36,482
                                                                   Score 857; DB 2; Length 166;
Pred. No. 4.1e-85;
I: Mismatches 2; Indols
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                                                                        2: Indels 0: Gaps
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// Patent No. 5545723
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; Sequence 1, Application US/08912768
                      US-08-912-768-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE: (212) 596-9000
TELEFAX: (212) 596-9090
INFORMATION FOR SEQ ID NO: 1:
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APPLICANT: Cate, Richlard I.
APPLICANT: Pepinsky, Hlake R
APPLICANT: Chow, Pingchang E.
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MOLECULE TYPE: Pr
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NAME: Haley Jr., James F
REGISTRATION NUMBER: 27,
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MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME: Haley Jr., James F
REGISTRATION NUMBER: 27.794
REFERENCE/DOCKET NUMBER: B179
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                   ANTI-SENSE: NO
-213-448-1
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                                                                                                                121 HLKPYPAPHTHYLKAKEYSHCAWTTYSYEILENFYRINRLTGYLEN 166
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                                                                                             121 HLKPYYGPILHYIKAKEYSHCAWTIVEVEILENEYFINELTGYLEN 166
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-FOS
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ZIP: 10020-1104
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: amino acid
STRANDEDNESS: single
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                                                                                                                                                                          61 EMLQNIFAIFRQDSSSTGWNETIVENLLANVYHQINHLKTFLEEKLEKEDFTRGKLMSSL 120
                                                                                                                                                                                                               61 EMPONIFALFRODSSSTOWNETIVENLLANWYHQINHLKTVLEEKLEKEDFTRGALMSSL 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US, 009, 213, 418
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                                                                                                                                                                                                                                                   New York
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 166 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein
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: Sequence 1, Application PC/TUS9503206 . GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 14
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 97.9%;
Best Local Similarity 98.2%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION.
                                                                                                                                                            APPLICANT: Bioqen, luc.
APPLICANT. Guelz, Susan E
APPLICANT: Cate, Richard L
APPLICANT: Pepinsky, Blake R
APPLICANT: Chow, Pingchang E
TITLE OF INVENTION: NOVEL MULEIDS OF IEN-BELA
NUMBER OF SEQUENCES. 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
ACCULTACE OF ALMER 15, P. 912, 768
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APPLICANT. Chow, Pingchand E
TITLE OF INVENTION: No. 6127332el Muteins of IFN-Meta
NUMBER OF SEQUENCES: 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/475,774
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ANTI-SENSE:
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CITY: New York
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REGISTRATION NUMBER:
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COMPUTER: 1BM PC compatible
OPERATING SYSTEM: PC DOS/MS-DOS
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CURRESPONDENCE ADDRESS:

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Putent No. 6127332
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Best Local Similarity 98.2%;
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TELEFAX: (212) 596-9090 
INFORMATION FOR SEQ ID NO: 1:
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APPLICANT: Garlz, Richard L
APPLICANT: Grow, Pingchand E
                                                                                                                                    COMPUTER READABLE FORM:
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                                                                                                                                                                                                                                                                                                                                                                     ANDRESSEE: James F. Haley, Jr.
SIREET: Fish & Neave, 1251 Avenue of the Americas
CITY: New York
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MEDIUM TYPE: Floppy disk
COMPUTER: THM PC compatible
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STRANDEDNESS, single
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REDISTRATION NUMBER: 27,794
REFERENCE/DOCKET NUMBER: B179
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Prod. No. 8.6e-85;
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Search completed: May 6, 2003, 09:56:10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Haley Jr., James F
RECIETRATION NUMBER: 37,794
REFERENCE/FORKET NUMBER: 6179
TELECOMMUNICATION: 10FORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OPERATING SYSTEM: PC-DOS/MS DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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LENGTH: 187 amino acid
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                                                                                                                                                                                                  142 HLKRYYGRILHYLKAKEYSHCAWTIVKVEILKNEYFINKL/TGYLKN 187
                                                                                                                                                                                                                                                                                                                 121 HIKRYYGRILHYLKAKEYSHCAWTIVRVEILRNFYRINKLTGYLRN 166
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     82 EMEQNIFATERSONSSIGMAPT OF PROCESSIONS EXPEREEMENT OF SELECTION (NO. 141)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       y Match 97.9%; Score 854; DB 3; Length 187; Local Similarity 98.2%; Prod. No. 1e-84;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 EMLQNIFATERQDSSSTGWNETTVENLLANVYHQTNHLKTVLEEKLEKEDFTRGALMSSL 120
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Job time : 13 secs

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867
1 MAYAALGALQASSNFQCQK!
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Listing first 45 summaries
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2. VIII. 2. () 1. SETA / (PAT/HOTHS_COMB_POPE*
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Prod. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

### SUMMARIES

<b>συ4ω</b> υ−	Result No.
842 829 829 829 829 829	Score
97.1 95.6 95.6 95.6	Query Match 1
166 166 166 166 166	Query Match Length DB
22 US-09-872 658-24 1 PCT-US98-14497-5 15 US-09-157-068-7 16 US-09-245-293-7 17 US-09-350 232-7 18 US-09-403-532B-1	
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	100 65	2		7,	7,	7	7,	Sequence 1. Appli	ŀ	Sequence II. Appl		2	t-		7.	Sequence 4. Appli	Sequence 17, Appl	112	-		9 4	4	4	7	~		2	Sometice - April	N2 :	7. Appl			5	N .	2	Segmence 1. Appli		Sequence 5. Appli

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RESULT 1
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                                                      ); ORGANISM: human
US-09-832-658-24
                                                                                                           ; SEQ ID NO 24
; LENGTH: 166
                                                                                                                                                                                                                                                                                                                                           APPLICANT
APPLICANT
                                                                                                                                                                      CURRENT AFFLICATION NUMBER US. 0.832.658
CURRENT FILING DATE: 2001-04-11
PRIOR APPLICATION NUMBER: 50/104.572
PRIOR FILING DATE: 1998-10-16
PRIOR APPLICATION NUMBER: 60/120,161
PRIOR PILING DATE: 1999-02-16
NUMBER OF SEN TO MOTO
                                                                                                                                                                                                                                                                                    TITLE OF "AVENTION: Polymer Conjugates of intentation Meta-la coll services and Uses
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Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                       WEST TAVIT BESCHOOL INC.
                                                                                                                                           SOFTWARE: FastSEQ for Windows Version 4.0
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                                                                                            TYPE: PRT
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Punkel, Laura
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     97.1%; Score 842; DB 22; Length 166; 97.0%; Pred. No. 1.5e-78;
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RESULT 2
PCT USOR 14497 S
Sequence 57 App
7 Sequence 1NBORM/
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2 GENERAL INFORMATION:
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GENERAL INFORMATION:
APPLE AND COX III, GOOTGO N
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Lang Match
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                                                                                                                                                                   NUMBER OF SEQ ID NOS: 17
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APPLIMANT: Bolder Historichology, Inc.
TITLE OF INVENTION Derivatives of Growth Hormone and Related Proteins
FILE REFERENCE: BROOT!
                                                                                                                                                                                                                                     HILE SE INVENTION: Interteron epsilon FILE REFERENCE: 98-48
                                                                                                                                                                                                                                                                                                APPLICANT: Francis J. Grant
APPLICANT: Mark W. Rixon
                                                                                                                                               SOFTWAKE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                               CURRENT APPLIATATION NUMBER, 05/09/152/068
                                                                                                                                                                                                                                                                            APPLICANT: Wayne Kindsvogel
                                                                                                                                                                                                                                                                                                                                          APPLICANT: Darroll C. Conklin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFIWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EARCHER FILING DAIE: 1997 07 14 NUMBER OF SEQ ID NOS: 41
                                                             ORGANISM: Homo sapiens
                                                                                     TARE : HRI
                                                                                                         CENCIH: 165
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   y Match 95.6%; Score 829; DB 1; Length 166; Local Similarity 95.6%; Pred. No. 3.4e 77; hes 159; Conservative 1; Mismatches 6; Indels
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  Length 166;
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SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 7
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US-09-245-293-7
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APPLICANT: Grant, Francis J.
APPLICANT: Rixon, Mark W.
APPLICANT: Einderwach, Wayne
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                                                                                                                                                                                                                                                                                                        CURRENT FILING DATE: 1999-07-08
NUMBER OF SEQ ID NOS: 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: "Egggggese, 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION. Interferon epsilon
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No. 3.4e 77; Matches 159; Conservative 1; Mismatches 6
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TYPE: PRI
                                                                   LENGTH: 166
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; ORGANISM: Homo sapiens US-09-350-232:7

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US-39-452-941-5

Sequence 5. Application US/09462941

GENERAL INFORMATION:
GEORGE N

APPLICANT: COX [II], decree N

APPLICANT: Rolder Biotechnology, Inc.

TITLE OF INVENTION: Derivatives of drowth Hormone and Related Proteins
FILE REFERENCE: 4152-1-pex

FULLE REFERENCE: 4152-1
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PRIOR FILING DATE: 1997-07-14
NUMBER OF SEQ ID NOS: 41
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                                                                                                                                                                                                                   PRIOR APPLICATION NUMBER: 60,7052,516
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Query Match 95.6%; Secre 829; DB 19; Length 166; Best Local Similarity 95.8%; Prod. No. 3.4e-77; Matches 159; Conservative 1; Mismatches 6; Indels
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PRICE APPLICATION NUMBER: USSN 65/133,785
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SEQ ID No. 2
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                                                                                 NUMBER OF SEQ 10 NOS: 38
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CURRENT FILING DAPP 2000-05-]
PRIOR APPLICATION NUMBER: US 60/133,785
PRIOR FILING DATE: 1999-05-12
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Sequence 16, Application US/09742436
GENERAL IMPORMATION:
APPLICANT: Prayaga, Subhirdas K
APPLICANT: Shimkets, Richard A
TIPLE OF INVENTION: NOVE) Polypertides and Polyphotectides Encoding Same
FILE REPERENCE: 15966-615
-THE-FILE APPLICATES 2001-09-13
CUBRENT FILING DATE: 2001-09-13
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: GENERAL INFORMATION:
APPLICANT: Pedersen, A.H., et al.
APPLICANT: Maxygen ApS
: TITLE OF INVENTION: Interferon-Beta Variants and Conjugates
; FILE REFERENCE: 0202us810
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NUMBER OF SEQ ID NOS: 26
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 16
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                                                                      PRIOR APPLICATION NUMBER, 69/170,230 PRIOR FILING DATE: 1999-12-10
                                                                                                                     PRIOR APPLICATION NUMBER: 60/169,887 PETIOR FILING DATE: 1999 12-09
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ORGANISM: Homo sapiens
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LENGTH: 166

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RESULT 14

US-09-732-4-60-16

Sequence 16, Application US/097324360

GENERAL INFORMATION:
APPLICANT: Shinkets, Richard A

FILLE OF INVENTION: Novel Polypeptides and Folynucleotides Encoding Same
FULE REFERENCE: 15966-615

CUREFUT STILLED DATE: 1290-12-07

FRIOR APPLICATION NUMBER: 60/169.887

PRIOR APPLICATION NUMBER: 60/170,230

PRIOR APPLICATION NUMBER: 60/170,230
                                          Sequence 95293, Application US/09791537
GENERAL INFORMATION:
APPLICANT: Bonomix, Inc.
APPLICANT: Dabe, Derek
APPLICANT: Danzer, Joseph
TITLE OF INVENTION: MEHODS OF USE THE
FILE REFERENCE: 261/210
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US-09-732-436-16
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Hest Local Similarity 95.8%; Pred. No. 3.4e 77;
Matches 15%; Conservative 1; Mismatches 6; Indels 0; Gaps
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FILE REFERENCE: 261/210
CURRENT ACCLICATION MONBER, 03/09/791,537
CURRENT FILING DATE: 2001-02-22
                                                              APPLICANT: Blonomix, Inc.
APPLICANT: Debe, Derek
APPLICANT: Debe, Derek
APPLICANT: Dater, Joseph
TITLE OF INVENTION: THREE DIMENSIONAL STRUCTURES OF PROTEIN FAMILIES AND FAMILY MEMBE
TITLE OF INVENTION: METHODS OF USE THEREOF
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SOFIWARE: PatentIn Ver. 2.1
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61 EMLQNIFAIFRGDSSSTGWNETIVENLLANVYHQINHLKTVLEEKLEKEDFTRGKLMSSL 120
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        Length 166;

        Pest Local Similarity
        95.8%;
        Fred. No. 3.4e-77;
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        Matches 159;
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121 HEKRYSBRICHTLEAKEYSBOAWTIVEVELLAHTEEBELTITLEN 166
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Maximum DB seq length: 2000000000
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        US-09-832-658A-26
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RESULT 2 US-09-825-658A-25 Sequence 25, Application US/09832658A GENERAL INFORMATION:

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EFFOR APPLICATION NUMBER: PCT GROUP CASCOL
FROM FILING DATE: 1959-10-18
EFFOR APPLICATION NUMBER: 60/104,572
EFFOR APPLICATION TRANSPORTED TO
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                                                                                                      ORGANISM: human
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Boehman, Paula
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                     95.7%; Score 830; D8 5; Length 166; 95.8%; Pred. No. 7.2e 84;
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  1: Mismatches
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FRIGH APPLICATION NUMBER: 60/2
PRIOR PRIOR DATE: 2002-10-23
DPIOR APPLICATION NUMBER: 60/2
PRIOR FILING DATE: 2002-11-05
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PRIOR FILING DATE: 2002-09-18
PRIOR APPLICATION NUMBER: 60,414,984
PRIOR FILING DATE: 2002 10-02
PRIOR APPLICATION NUMBER: 60,417,611
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PRICE FILING DATE: 2002-05-10
PRICE APPLICATION NUMBER: 60/398,008
PRICE FILING DATE: 2002-07-24
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                                                121 HEKRYYGRILHYLKAKEYSHCANTIVKVELILKNIYKINKLISIYLIK 166
121 HLKRYYGRILHYLKAKEYSHCAWTTVKVETTKNFYFINRUTGYLRN 166
                                                                                                                                                                                                y Match 95.6%; Score 829; 18 l; Length 166; Local Similarity 95.8%; Prod. No. 9.4e-84; hos 150; Conscrptive 1, Mismatches 6, indela-
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: Sequence 464, Application PC/IUS0240891
; GENERAL INFORMATION:

APPLICANT: Human Genome Sciences, Inc.

PCT-US02 40891-464

RESULT 5

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PCT-USOD 40891 527
F Sequence 527, Application:
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PRIOR FILING DATE: 202 20 28
PRIOR APPLICATION NUMBER: 60,478,950
PRIOR APPLICATION NUMBER: 60,478,950
PRIOR FILING DATE: 2002-05-10
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                                                 PRIOR APPLICATION NUMBER: 60/414,984 PRIOR FILING DATE: 2002-10-02
                                                                                                                PRIOR APPLICATION NUMBER: 60/411, 355
                                                                                                                                           PRIOR APPLICATION NUMBER: 60/398,008 PRIOR FILING DATE: 2002-07-24
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PRIOR APPLICATION NUMBER: 607 400,000
PRIOR FILING DATE: 2002-028
PRIOR APPLICATION NUMBER: 607378,950
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PRIOR APPLICATION NUMBER: 60/420, 246
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CURRENT FILING DALE: 2002-12-23
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APPLICATION NUMBER: 60/417,611 FILING DATE: 2002-10-11
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                                                                                                                                               SOFTWARE: Patentin Ver. 2.0 SEQ ID NO 539
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GENERAL INFORMATION:
APPLICANT: Human Ge
                             Query Match
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Rest Local Similarity 95.8%;
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PRIOR FILING DATE: 2002-07-24
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PRIOR ETLING DATE: 2002-10-23
PRIOR APPLICATION NUMBER: 60,421,623
PRIOR ETLING DATE: 2002-11-05
PRIOR APPLICATION NUMBER: 60,4351,360
PRIOR FILING DATE: 2002-01-28
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                                                                                   ORGANISM: Homo sapiens
                                                                                                            TYPE: PRT
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                                                                                                                            LENGTH: 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            y Match 95.6%; Score 829; DB 1; Length 166; Local Similarity 95.8%; Pred. No. 9.8c-84;
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Pred. No. 9.3e-84;
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PRIOR FILING DATE: 2002-10-23
PRIOR APPLICATION NUMBER: 60/423,623
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PRIOR FILING DATE: 2001 12-21
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION NUMBER: 60/351,360
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                                                                                                                                                                                                                                                                                                                                                                          121 BIRBAAGE CHATTEVARALIAMALIAMALIAMATER TAGATAN 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 HIEFYYTEILHYLKAKEYSH'AWTIVKVEILBHFYRINKLTGYLKN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 FM ((NIFA) FM) ((SSS) (SWIFT) FM I ANVEHOUND FTVI FFVI FFVI FFVI FM (SSS), 120
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PRIOR FILING DATE: 2002-05-10

607 978, 950

PRIOR APPLICATION NUMBER: 50/360,000 PRIOR FILING DATE: 2002-02-28 PRIOR FILING DATE: 2001 12-21

PRIOR APPLICATION NUMBER: 50/498,008 PRIOR FILING DATE: 2002-07-24

PRIOR APPLICATION NUMBER: 60/411, 355

2002 - 09 - 18 2002-10-02

60/414,984

PRIOR APPLICATION NUMBER: 60/417,611

PRIOR FILING DATE: PRIOR APPLICATION NUMBER: PRIOR FILING DATE:

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GENERAL INFORMATION:
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**UESENI AFILIATION NUMBER: 201, US..., 40891
CURRENT FILING DATE: 2002-12-23
FRICE APPLICATION NUMBER: 60/341,811
                                                                                                                                                                   TITLE OF INVENTION: Albumin Fusion Proteins FILE REFERENCE: PF564PCT
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CURRENT FILING DATE: 2002-12-23
FRIOR AFFLE AFFLE AFFRE 60/441.811
PRIOR FILING DATE: 2001-12-21
                                                                                                                                                                                                                                                                         APPLICANT: Human Genome Sciences, Inc.
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PRIOR APPLICATION NUMBER: 60/420,246
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PRIOR APPLICATION NUMBER: 60/414,984
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SEQ 1D NO 153
                   Best Local Similarity
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NUMBER OF SEQ ID NOS: 2222

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 1725
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PRIOR APPLICATION NUMBER: 60/341/811
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PRIOR PPLICATION NUMBER, 66,7120,246
PRIOR FILING DATE: 2002-10-23
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95.8%;
Score 829; DB 1; Length 166; Pred. No. 9.3e-84;
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                                                                                                                                                                                                                                                                                                                         SEQ ID NO 154
LENGTH: 166
                                                                                                                                                                                               Obery Match
Best Local Similarity 95.8%; Pred. No. 9.3e-84;
Matches 159: Consorvative [: Mismatches 6
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                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION NUMBER: 60,350,358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION NUMBER: 60,417,611
PRIOR FILING DATE: 2002-10-11
PRIOR APPLICATION NUMBER: 62,420,245
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121 HUKRYYGRILHYLKAKEYSHCAWTIVRVEILRNIYKINKUTGYLKN 166
                                                                61 EMI.ONTFATFRODSSSTOWNPTTVFNLLANVYHOLINGLEFELEKERTECKINSSL 120
                                                                            121 HEKPYYÓPÍLHYLKÁKEYSHOMZIVKVEILKHETLINKLTGYLKN 166
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                                                                                                                           61 EMLQNIFAIFRQDSSSTGWNETIVENI.LANVYHQINHLKTVLEEKI.EKEDFTRGKI.MSSL 120
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PCT-US02-40892-165 | Sequence 165, Application PC/TUS0240892

RESULT 13

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PCT USOZ 40892-167; Sequence 167; Application PC/SUSO240892; GENERAL INFORMATION:
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                                                                                                                    Remaining Prior Application data removed \cdot Sec Fife Wrapper or PALM NUMBER OF SEC ID NUS: 858
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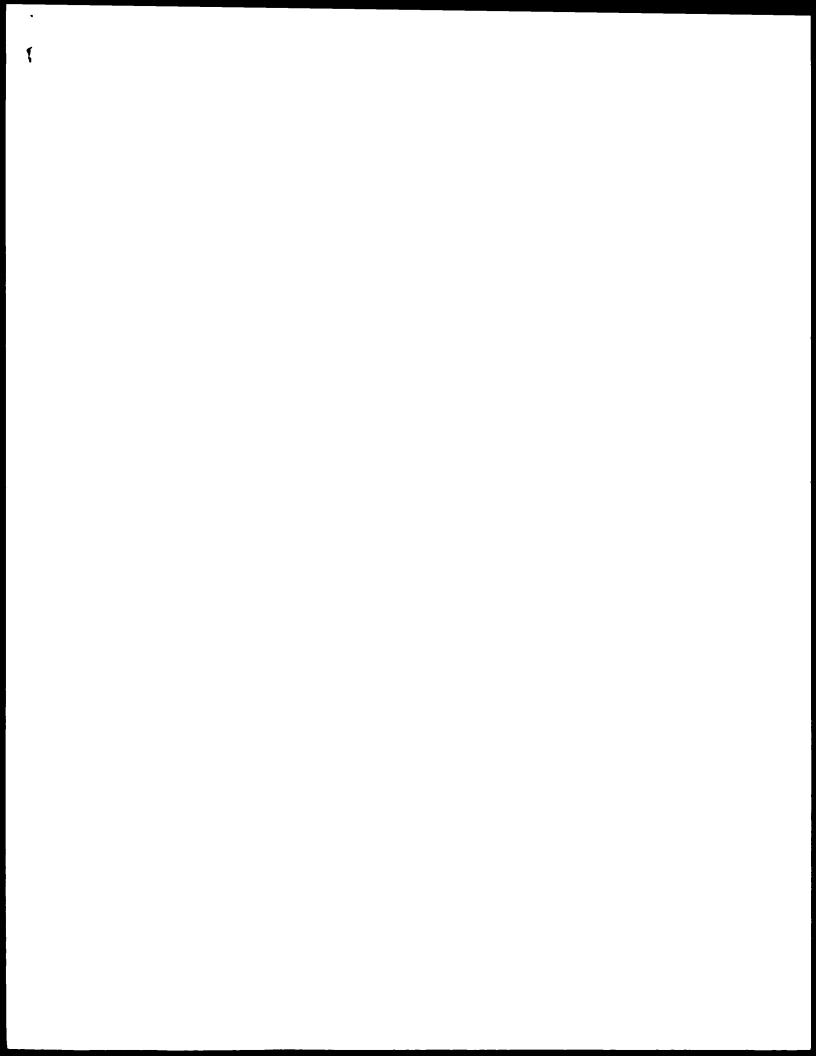
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SPIREMBL_21:*

Splarchea:*

Sp_bacteria

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Sp_bacteria

Sp_human:*

Sp_human:*

Sp_mammal

First Sp_mammal

First Sp_mammal

Sp_phac

10: Sp_phac

10: Sp_phac

10: Sp_phac

11: Sp_r

12: Sp_phac

13: Sp_r

14: Sp_r

15: Sp_r

16: Sp_r

17: Sp_r

17: Sp_r

18: Sp_r

19: Sp_r

19: Sp_r

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sp_phage:*
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Prod. Not is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution

## SUMMARIES

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01 NeV 1996 (HEMBLEEL 01, Last seep
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopitheeidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ofTR12:
of NoV 1908 (FERMSLEEL OB, Created)
of NoV 1908 (FERMSLEEL OB, Last sequence update)
of OBS 2001 (FERMSLEEL D9, Last annotation update)
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SEQUENCE TRY AA: 22266 MW: 376AEE73332B7807 CRC54;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SMARE: SM00076: [Fabd, ].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro: 1PR000471: InterPeron_abd Plan: PF00148: interteron; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS; PRODZ66; INTERFERONAB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matheux E , Le Grand R., Rousseau V., De Maeyer E., Dormont D.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Macaque lymphacytes transduced by a censtitutively expressed interteron beta gene display an enhanced resistance to SIVmac251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDITINE 99156140; PubMed 10048395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SECHENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      intertion."
                                                                                                                                                                                              142 HIKRYYGE GAYARANNYSH AWATYRYETINKH EFINKGAYIRN 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IT SIMILARITY: BELONGS TO THE INTERFERON ALPHA, RETA AND DELTA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           991 MSTAGLISHURALHGITAAALAMV, ABAABAWATAHTI AGAARRIH 121
                                                                                                                                                                                                                                                                                                                                                                                                    FAMILY
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                                                                                                                                                                                                                                                                                                                                      FMI_DNIFATEPODSSSTGWNETIVENLLANVYHOTNHLKTVLEEKLEKEDETRGALMSSL_120
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                                                                                     FRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   92.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 93.7%; Score 817; DB 6; 92.8%; Prod. No. 1.4e-64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         7; Mismatches
              Last sequence update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                 "Cloning bovine interteron-tan genes and characterizing their transcriptional expression dering early promanny."; Submitted (FES-266) to the ENG-Zenbork-108H databases.
                                   EMBL: AF238613; AAG14170.1; HSSP: P01563; 2HIE.
                                                                                                                                                                                                                                                                                    Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                       Bos taurus (Bovine).
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              InterPro; IPR000471; Interferon_abd.
                                                                                                                                                                                              Chung Y.G., Seidel G.E. Jr.;
                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                 NCBI_TaxID=9913;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; $41178; AAB22723.1; -. HSSP; P01574; IAU1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=92348930; PubMed-1640116;
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01-MAR-2001 (TEMBLIEL, 16, Prouted)
01-MAR-2001 (TEMBLIEL, 16, Last sequence update)
v1 DEC 2001 (TEMBLIEL, 19, Last annotation update
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Entelevistomi:
Mammalia: Eutheria: Cetartiodactyla: Ruminantia: Pecora: Bovoidea:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Artursson K., Gobl A., Lindersson M., Johansson M., Alm G., "Molecular cloning of a gene chooding poreine interferon-beta.
J. Interferon Res. 12:153-160(1992).
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Artursson K., Gobl A., Lindersson M., Johansson M., Al
Submitted (FFR 1792) to the FMHC, Checoach, 2008J database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ProDom: PD000550; Interferon_abd; 1.
SMART; SM00076; IFabd; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro: IPR000471; Interferon_abd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -!- SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mammalia; Euthoria; Cetartiodactyla;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            141 HERRYYLS IL OYLKSKEYRSYNWYVVVVERTERNESELWRLEDYLKNI 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 HLKPYYGRILHYLKAKEYSHCAWTIVKVDILKNOYKINKLTGYLKN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22 MSYDVLKYQQKSSNLACQKLLAQLECTEQYCLEDKMNE EVPTEELMQPPQPQKEDAVLTTH 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MSYNLLGFLQRSSNFQCQKLLWQLNGRLEYCLKDRMNFDTPEETKQLQQFQKEDAALTTY 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMIQNIFAIFAGESSSEGWNELLVENLANVYBQINBLKIVLEBKLEKEDETRGALMSSL 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMEQQIEGILERNESSTGWNETVIKTILVELIGQMDDLETILEEIMEEENEFERGD-MTIL 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  186 AA; 21878 MW; 5F16B8B3C3AE603D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Metadoa, Gbordata, Craniata, Vertebrata, Bateleostomi;
Butheria; Getartiodaetyla; Suina; Suidae; Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative 28, Mismatches 35,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred. No. 7,5e 39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scure 525.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INTERFERON BETA 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JATENITAL
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                                                                                                                                                                                                                             Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hest Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chariler M., L'Haridon R., Roisnard M., Martal J., Saye P., "Cloning and structural analysis of four genes encoding interferonomega in rabbit.",
J. Interferon Res. 13:313-322(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     028844;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE 94132653; PubMed=8301151; Charlier M., L'Haridon R., Boisna
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Oryetolagus cuniculus (Rabbit)
Eukaryota: Metazea: Cherdata: (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-NOV-1996 (TrEMBLrel, 01, Created)
01-NOV-1996 (TrEMBLrel, 01, Last sequence update)
01-DEC-2001 (TrEMBLrel, 19, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q28844
                                                                                                                                                                                                                                                                                                                                                                         EMBI; $68999; AAC60525.2; -.
HSSP; P01563; 2HIE.
InterPro: IPR000471; Interferon_abd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota: Metazoa: Chordata: Craniata: Vertebrata. Enteleostimal
Mammalia: Eutheria: Ladomorpha: Leporidae: Oryotolagus
                                                                                                                                                                                                                                                                             Antiviral:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Antiviral; Cytokine.
SEQUENCE 195 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SMART: SM00076: IFabd: 1.
PROSITE: PS00252: INTERFERON_A_B_D: 1.
                                                                                                                                                                                                                                                                 SEÇHENCE
                                                                                                                                                                                                                                                                                           PPOSITE: PS00252; INTERFERON_A_B_D; 1.
                                                                                                                                                                                                                                                                                                                            ProDom: PD000550;
                                                                                                                                                                                                                                                                                                                                           PRINTS; PR00266; INTERFERONAB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Interferon-omega48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ProDom: PD000550;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRINTS: PRO0266; INTERFERONAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ptam: PF00143; interteron;
172 RRAFSSTADLQESLRS 187
                                                                                                                                                                                                                                                                                                                                                                                                                                     :!- SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA
                                151 LENEYRINGLIGYLEN 166
                                                              112 LHQQQQCLETCLVQAMGEEDSVLTADSPTLMLKRYFQRTRIYLDEKKHSGCAWELVPMEI 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         158 EYSDCAWELIRVEMMR 173
                                                                               52 CLKORROFOFPREVVNGSOFOKHOAVSVLHEMLOOIFNLLHTAHSSAAWNNTLLEELHAA 111
                                                                                                                                                           31 CLKORMNEDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLAN 90
                                                                                                                                                                                          Match 29.9%; Score 261; DB 6; Length 19:
Local Similarity 41.9%; Pred. No. 1.8e-15;
es 57; Conservative 21; Mismatches 58, Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                39 RILLAQMN-RESTHSCEQUEKDFG! PWEMVFGDQTQKDQATSVIHEMIQQCGNLFHTEHSS 97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19 KLIMƏLMƏRI FEYGUKURMNEDIFFEIKOLÖĞFÖKEDAALTIYEMLÖNIFAIFRODSSS 76
                                                                                                                                                                                                                                                                                                                                                                                                                            FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EYSHCAWTIVRVEILR 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAWNITLLEQLCTGLHQQLDDLDACLGQVMEEKDSALGRMGPILTVKKYFQGIHVYLKKK 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGWNETIVENLLANVYHQINHLKTVLEEKLEKEDFTRGALMSSLHLKRYYGRILHYLKAK 136
                                                                                                                                                                                                                                                                                                                                                         PF00143; interferon;
                                                                                                                                                                                                                                                                                                              SM00076; IFabd;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                             Cytckine.
195 AA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                                                                                                                                                                                                                                                                        Interferon_abd; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Interferon_abd; 1.
                                                                                                                                                                                                                                                          21981 MW; D4D2E3EE5134AE5F CRC64.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22239 MW; 68902443B203E50A 0E064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 40.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               30.1%; Score 262.5; DB 6, Length 195, 40.4%; Pred. No. 1.3e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  29; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      195 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              49) Indeks
                                                                                                                                                                                                                         Length 195;
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Q28845
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Best Local s
                         "Cloning and analysis of a gene encoding ovine interferon alpha-tl."; gene 106:281-282(1991).
                                                                                                                                                                                                                                                   01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBErel. 01, Cast sequence update)
01-DEC-2001 (TrEMBErel. 19, Last annotation update)
                                                                                                                                                                                                        Ovis aries (Sheep).
                                                                                                                                                                                                                                       Ovine interferon alpha precursor.
                                                                                                                                                                                                                                                                                                                     Q28562
                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammaila; Eutherla; Cetartiodactyla; Ruminantia; Pecora; Novoidea;
                                                                                                                                                                                                                           AMY 49
                                                                                                                                                                                                                                                                                                     Q28562;
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HSSP: P01563: 2HIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV 1996 (TrEMBLrel. 61, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
                                                       Whaley A.E., Carroll R.S., Imakawa K.;
                                                                          MEDLINE 92037070, PabMed-1937057:
                                                                                                                                          NCBI_TaxID=9940;
                                                                                                                                                           Bowidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SECTIONS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRINTS: PRO0266: INTERFERONAB.
PRODOM: PD000550: Interferon_abd: 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Tharlier M., I'Haridon E., Polsmard M., Martal J., Caye P., "Choring and structural analysis of four denes encoding interferon-omega in rabbit.",
J. Interferon Res. 13:313-322(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota: Metassa, Chordata, Cramiata, Vertebrata; En
Mammalia: Eutheria: Lagomorpha; Leporidae: Oryetolagus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Oryetolagus cuniculus (Rabbit).
Eukaryota: Metasoa, Chordata, Cramiata,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q28845
        -! SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA
                                                                                             FISSUE-LIVER;
                                                                                                           SEÇUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE; PS00252; INTERPERON_A_B_D; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SMART; SM00076; TFabd;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pfam; PF00143; interferon;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR000471; Interferon_abd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=94132653; PubMed=8301151;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SHQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Interferon-omega45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q28845;
                                                                                                                                                                                                                                                                                                                                                                                                   172 PRAFSSTADLQESLRS 187
                                                                                                                                                                                                                                                                                                                                                                                                                                   151 LRNFYRINRLTGYLRN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 112 LHQQTQCLETCTVQAMGEEDSVI TADSFILMI KEYTQELELYI DEKKIISO:AWELVEMSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             52 OLKDERGEDERVANGSOMOENDERVANDEN OG DER THER BEGANARED LIDDERA. I I I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                31 OLKUBANBALBEBIKÖTÖÖDÄKBAVTITABATATLAVILATABALBARANBARALIANTA 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             $69000; AAC60526.1; -.
                                                                                                                                                         Caprinae, Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cytokine.
                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative 11, Mismatches 60; Indols
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29.0%; Score 253;
40.4%; Pred. No. 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21996 MW, 397587100886A928 0R064:
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                                                                                                                                                                                                                                                                                                                       PRT :
                                                                                                                                                                                                                                                                                                                        195 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 6; Length 195;
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                                                                                          gaery Match
                                                                               Best Local
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Hest Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        owis aries (Sheep).
Bukaryota Motazoa: Chordata: Craniata: Vertebrata: Enteleostomi:
Mammalla: Entheria: Cetartiodaetyla: Rominantia: Recora: Bovoidea
Bovidae: Caprinae: Pvis.
                                                                                                                                                                                     Probaic Pharassa; Interferon_abd; 1.
SMARI: SMARAS; 1.
PROSTIE: PSOUZSA; INTERFERON_A_B_D; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ol-NeW 1996 (IrEMBLrel, 01, Greated)
01 NeW 1996 (TrEMBLrel, 01, Last sequence update)
01 DEC 2001 (IrEMBLrel, 19, Last annotation update)
                                                                                                                           SEQUENCE 195 AA: 22010 MW;
                                                                                                                                                                          Antivital Cytokines Signal.
                                                                                                                                                                                                                                                  InterPro: IPR000471; Interteron_abd.
Piam: PF00143; interteron: 1.
                                                                                                                                                                                                                                                                                     EMBL: 026254; AAB06828.1;
HSSP: P01563; 2BIE.
                                                                                                                                                                                                                                                                                                                                                Biochim, Biophys. Acta, Gene Struct, Expr.
                                                                                                                                                                                                                                                                                                                                                                                                .edči v.
                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDITARE SECTIONS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCB1 LixID 9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Interleron type I precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ⊕28545g
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                                                                                                                                                                                                                                        PRINISC PROGLESS INTERPRESINAB
                                                                                                                                                                                                                                                                                                                                                               species specificity.";
                                                                                                                                                                                                                                                                                                                                                                           omera and IFN taus gene structure, biological properties and unusual
                                                                                                                                                                                                                                                                                                                                                                                                               1.111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SMART: SMOODE: IFABA: 1. FROSTIE: PSOODES: INTERFERON_A_B_D; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro: [PR00047]: InterPeron_abd. Ptam: PF00143: interPeron; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HSSP: 001063; 2AA4
                                                                                                                                                                                                                                                                                                                                                                                                                                               SECUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Autiviral; Cytokine; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Probon: Poucosto: Interferon_abd: 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRINTS: PRODESS: INTERFERONAB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  172 FRAFSSTADLQESLRS 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              151 LENEYRINELIGYLEN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            112 HIGGEGERT TEGAMGEEDSVETADSPILMLKRYFGRIRLYLLEKKHSGNAWELVRMEI 171
52 CLKDREDFOFFREYVNOSOFOKNOTVSVLHEMLOOTFNLLHTARSSAAMNNTLLEELHTA 110
                               31 CLKDRMNFDIFEEIKOLOGFCKEDAALTIYEMLONIFAIFKODSSSTOWNETIVENLLAN 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       52 FILKDERDFORFREVVNOSOFOKNOTVSVIHEMLQOTENILHTARSSAAWNVTITEFTHTA 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      31 OLKHAMNEH PEETKOLOOPIKEDAALTIYEMIQNIFALERODSSSEMMETTVENILAN 90
                                                                                                                                                                                                                                                                                                                                  SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BUTA AND DELIA
                                                                                                                                                                                                                                                                                                                      FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        55; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           X53068; ('AA41791.1;
                                                                                                                                                                                                                                                                                                                                                                                             Leadman D.W., Bixby J.A., Roberts R.M.:
Leading to there with limited similarity to IFB alpha, IFB
                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24 195 OVINE INTERFERON ALPHA: 195 AA: 22006 MW; 488EE700C586A928 CRC64;
                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                            t.
                                                                                                                                                                                                                                                                                                                                                                                                                            PubMed 8539714;
                                                                                                                                          1 1,5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      29.0%; Score 253;
40.4%; Pred. No. '
                                                                                40.4%;
                                                                             29.0%; Score 253; DB 6
40.4%; Pred. No. 9e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21; Mismatches
                                                              2); Mismatches
                                                                                                                                          INTERFERON TYPE 1.
                                                                                                                                                           POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pred. No. 9e-15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                             150400450582F86E CR364;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            195 AA
                                                                                            DB 6; Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 6; Length 195;
                                                                                                                                                                                                                                                                                                                                                1294:55 62(1996)
                                                              60;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60; Indels
                                                              Indels
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                                                                                                                                                                                                                                                                                                                       DP.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity
            Saquinus oedipus (Cotton-top tamarin).
Eukaryota: Metazoa; Chordata: Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Platyrrhin; Callitrichidae; Saquinus
                                                                                         01-DEC-2001 (TrEMBLIGEL 19, Freated)
01-DEC-2001 (TrEMBLIGEL 19, Last sequence update)
01-MAR-2002 (TrEMBLIGEL 20, Last annotation update)
                                                                                                                                                                   Q95J78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gren E.Y., Berzin V.M., Tsimanis A.Y., Apsalon U.R., Vishnewskii Y.L., Yansene L.V., Dishler A.V., Puhwa N.V., Smorudiatsev A.A., lozha V.P., lovlev V.L., Stepanov A.N., Feldmane G.Y., Meldrals Y.A., Lozha V.P., Kavsan V.M., Efimov V.A., Sverdlov E.D.; "A new type of leukocytic interteron."; lokl. Biochem. 269:91-95(1983).
NCBI_TaxID 9490;
                                                                                Interferon alpha precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-NOV-1996 (TrEMHLrel. 01, created)
01-NOV-1996 (TrEMHLrel. 01, Last sequence update)
01-DEC-2001 (TrEMHLrel. 19, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q14618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Antiviral;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROSITE: PS00252,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SMART; SM00076; IFabd;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRINTS; PR00266; INTERFERONAR, ProDom; PD000550; Interferon_c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; X00140; CAA24970.1; -. HSSP; P01563; 2HIE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR000471: InterPron_abd.
Pfam; PF00143; InterPron; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCB1_TaxID 9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota: Metazou: Chordutu: Traniata; Vertebrata: Enteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  014618;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -!- SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Interferon alphasm.
                                                                                                                                                                                                                                                      156 GKKYSPCAWEVVRAFIMRSF 175
                                                                                                                                                                                                                                                                                     135 AKEYSHCAWTIVEVEILENF 154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 172 RRAFSSTADLQESLRS 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    151 LRNFYRINRLTGYLKN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  112 LHQQLQGLETCLVQAMGEEDSVLTADSPTLMLKKYFQKTKLYLDEKKHSGCAWELVKMET 171
                                                                                                                                                                                                                                                                                                                   99 AWDETLLDKEYTELFQQUNDLEA YTGEVGVEET
                                                                                                                                                                                                                                                                                                                                                     78 GWNIII VENELANVYBUINBLE IVLEBELEEBIE EROALM
                                                                                                                                                                                                                                                                                                                                                                                   91 VYHQINHLKTVLEEKLEKEDETRGALMSSLHLKRYYGRILHYLKAKEYSHCAWIIVEVEI ISO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                         54.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cytokine.
189 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INTERFERENCE A B_D; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Interferon_abd; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21810 MW:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     29.0%; Score 252.5;
38.6%; Prod. No. 9.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                       (0) Mismatches 47; Indets
                                                                                                                                                                   E6D8D9E726E04344 ('RC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TRT:
                                                                                                                                                                     THY AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ING AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9.60-15
                                                                                                                                                                                                                                                                                                                     ALMNERSHIAVKKYFÇKITIYIM 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DH 4;
                                                                                                                                                                                                                                                                                                                                                     SSUBLERY YOR LUBYUK 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 189;
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                                          Query Match
Best Local S
Matches 54
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Best Local s
                                                                                                                                                    EMHL: $68997; AAC60524.1; -.
HSSP; P01563; 2HTE.
InterPro: IPR000471; Interferon_abd.
Pram; PF00143; Interferon; 1.
PFINIS: PR00256; INTERFERONAB.
PRODUM: PR000550: Interferon_abd; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                          01-NOV-1996 (IrEMBLrel. 01, Croated)
01-NOV-1996 (IrEMBLrel. 01, Fast sognesso update)
01-DEX-2001 (TrEMBLrel. 19, Last annotation update
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q28843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     hepatitis model.";
Submitted (OCT-1999) to the EMBL/GenBank/DDBJ databases.
-!- SIMILARITY: BELONGS TO THE INTERESPON ALPHA, HETA AND DELTA
                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. MEDILINE-94132653 - ProbMod-8401151
                                                                                                                                                                                                                                                                                                                                                                                 Pukaryota: Metazca: Chordata: Craniata: Vertebrata: Esteleostomi
Mammalia: Puthoria: Lagramorpha: Lagranidae, Osyotelagus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                           SMART: SM00076; IFabd; 1.
PROSITE: PS00252: INTERFERON_A_B_D; 1.
                                                                                                                                                                                                                                                               Charlier M., L'Haridon R., Roisbard M., Martal T., Gaye P.:
"Cloming and structural analysis of four genes encoding into force
                                                                                                                                                                                                                                                                                                                                                                                                                  oryctolagus cuniculus (Rabbit)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q28843;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE: PSOADES; INTERFERON_A_B_F: UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam; PF00143; interferon; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL: A.1250195; CAC44124.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Coccacci A., Aurisicchio i chilborto G. Palombo F. Trabolio C. "Roccombinant cotton-top tamarin interferon: a new tool for a primate
                                                                                                               Antiviral;
                                                                                                                                                                                                                                                                                                                                                                         NCB1_fax1D-9986;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Interferon-omega44.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Antiviral: Cytokine: Signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro: IPR000471; Interferon_abd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                          -!- SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        118 SSCHERSYTORIERYESAKEYSPOAMTIV-VEILFNEYFINFLIOYERN 155
                                          tocal Similarity 39.7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      86
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          41 OLKOBMNEDIBEBIKOLOGE/BEGANITIVEMIQNIBAIEMOISSIOWNELIVENLLAN 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5 LLAFLORSSNEQCOKILWOLNGRIEVOLKDRMNEDTPEEJKOLOOFOKEDAALTIYEMLO 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SILIVRKYPORTILYIKEKKYAOAWEVVVAAPIMPSESISTNIQKGLES 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q FENLESTKUSSAAWDETLLDKERTELYQQLNELEACVVQEVGVTDTPLLNED------ 138
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189 AA;
                                                                                                 Cytokine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29 94; Score 252; DB 6; 44 98; Prod No. 1 15-14;
                                        28 8%: Scott 251; DB 6;
39.7%; Pred. No. 1.4e-14;
ative 22; Mismatches 50
                                                                                                 22065 MW:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
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Mismatches 50
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                                                                                                 4AAE088176F87F87 CRC64
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                                                                   DB 6; Length 195;
                                          5.0.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 189;
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                                                                                                                                                                                                                                                                                                                                                  Q13168
                                                                                                                                                                                                                                                                                                                                                                                RESULT 13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 55;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
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01-NOV-1996 (TrPMBLrel 01, Tast sequence update)
01-DEC-2001 (TrPMBLrel 19, Tast annotation update)
                                                      Homo sapiens (Human).
Eukaryota, Mctadea, Cheriata, Craniata, Vertekrata, Duteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                    01 NOV 1996 (TERMBLIEG). 01. Created)
01-NOV-1996 (TERMBLIEG). 1. Last sequence update)
01-DEC-2001 (TERMBLIEG). 19. Last annotation update)
Interferon omega-1 (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PM81; $59179; AAC50523.1) ...
HSSP; P01563; 2HTE.
InterPro; [PR000471; Interferon_abd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          omega in rabbit.";
J. Interferon Res. 13:313-322(1993).
! SIMILARITY: BELONGS TO THE INTESPEE N ALPHA, BETA AND DEUTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=94132653; PubMed=8301151;
Charlier M., E'Haridon E., Poispard M., Martal J., Gayo P.;
"Cloning and structural analysis of four genes enceding interferon-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Oryetolagus cuniculus (Babbit).
Eukarysta, Metarta, Cherduta, Creminta, Vertebrata, Euteleostomi;
Mammalia, Eutheria, Lagomorpha, Leporidae, Oryetolagus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pfam; PF00143; interferon; 1. PRINTS; PR00266; INTERFERONAB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
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                       NCB1_Taxib 9696;
                                                                                                                                                                                                                                                                                     Q13168;
                                                                                                                                                                                                                                                                                                                       Q13168
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PROSITE; PS00252; INTERFERON_A_B_D; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ProDom; PD000550; Interferon_abd; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            172 RRAFSSTADLQESLRS 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                151 LENFYRINGLTGYLRN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.15 THOO FOOT PLICE ACTIVATED BY THE TANK THE TOTAL TOWN OF THE PROPERTY OF T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            151 LENFYRINELTGYLEN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                172 RRAFSSTADLQESLRS 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                31 CLKORMNETTERETKIGGIGGEGAALTIYEMIGENTATERQUASSITOMNUTIVENLLAN 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              52 CLKDERDEGEPREVVMOSGEGKNGTVGVLHEMIGGLENIJ HTARSSAAWNNTLLEELHTA III
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21 VYBQINBUKIVLESNUUKIDI CEGALECGUULKKYYCELLIBULKAKUVIICAWIIVKVEI ISO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FAMILY.
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                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22067 MW: 7F4E6F674591404B CEC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         40.4%; Pred. No. 1.4e-14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28.8%;
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                                                                                                                                                                                                                                                                                                                PRT;
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Best Local Similarity
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Best Local s
                                                                                                SEQUENCE
                                                                                                                                                                                                           Plans PEO0148: interteron; 1.
Prodom: PD000550: Interteron_abd; 1.
PROSITE: PS00252: INTERFERIN_A B_D: ONKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                Percence A., Aurisicchio L., Ciliberto G., Palombo F., Traboni C. "Recombinant cotton-top tamarin interferon: a new tool for a prim hepatitis model."
Submitted (cCT 1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-DEC 2001 (FEMBLECL 19, Created)
01-DEC 2001 (FEMBLECL 19, Last sequence update)
01-MAR 2002 (FEMBLECL 20, Last annotation update)
                                                                                                                                 NIVI
                                                                                                                                                              SIGNAL
                                                                                                                                                                                        Antivital; Cytokine: Signal.
                                                                                                                                                                                                                                                                                                                                                   EMBL: AJ250196; ('AC44125,1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota: Metazoa: Chordata: Craniata: Vertebrata: Euteleostomi;
Mammalia: Eutheria: Primates: Platyrrhini; Callitrichidae: Sagain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     77.11560
                                                                                                                                                                                                                                                                                                            InterPro: IPR000471; Interferon_abd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SECTENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NOB1 [ax10 9450;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Saguinus oedipus (Cotton top tamarin).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Interferon alpha precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           095.177;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SMART: SM000750: Interferon_abd; 1.
PROSITE: DSDOOT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROSTIE: PS00252: INTERFERON_A_B_D; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRINTS; PRO0266; INTERFERONAB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ptam: PFO0143; interferon:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL: 025670; AAA70091.1;
HSSP: P01563; 281E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "The clouing, sequencing of the primary structure and expression in E. coli Chinese buman IEN-WI gene.";
                                                                                                                                                                                                                                                                                                                                                                                                          I SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Autiviral; Cytokine.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SECUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            31 CLKDRRDEREPQEMVKGSQLQKAHVMSALHEMLQQIFSLEHTERSSAAWNMTLLDQLHTG 90
                                                                                                                                                                                                                                                                                                                                                                                   FAMILY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IMESTELS INMOSETES 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ILRNFYRINKLTGYLRN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LHQQLQHLETCLLQ-VVGEGESAGAISSPALTLHRYEQGIRVYLKEKKYSDCAWEVDRME 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VYHQINHIKIVLEEKLEKEDFTRGALMS:SLHLKRYYGRILHYLKAKEYSHCAWTIVRVE 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 h 28.7%; Score 250; D8 4; Length 174;
Similarity 48.0%; Pred. No. 1.5e-14;
52; Penservative 42; Mismatches 51, Indels
                                                                                                    189 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                 <u>~</u>
                                                                                                                              183
                                                                                          22052 MW;
   28.7%;
37.8%;
Score 250; DB 6;
Pred. No. 1.6e-14;
                                                                                          INTERFERON-ALPHA.
9E4389CFEC329DBA CRC64;
                                                                                                                                                           POTENTIAL
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                             Length 189;
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Cloning bovine interferon-tau genes and characterizing their transcriptional expression during early pregnancy."; Submitted (FEB-2000) to the FMMH,/GenBank/NDRH databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Antiviral; Cytokine.
SEQUENCE 195 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SMART; SM00076; IFabd; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HSSP; P01563; 2HIE.
InterPro; IPR000471; Interferon_abd
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodaetyla; Ruminantia; Pecora; Rozoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-DEC-2001 (TrEMBLrel, 19, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ProDom; PD000550;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRINTS; PR00266;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pfam; PF00143; interferon;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Chung Y.G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
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   158
                                                          137 EYSHCAWTIVRVEILR 152
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                                                                                                                                                                                                                                                                                                         19 KILIMQIJNGKG - SYCIKUKMNEDJEFEEIKQIQQEQNEJAALILIYEMIQUIFATEKQUSSS 76 :1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| :: | 1| ::
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EYSDCAWELIRVEMMR 173
                                                                                                                                                                                               TGWNETIVENLLANVYHQINHLKTVLEEKLEKEDFTRGALMSSLHLKRYYGRILHYLKAK 136
                                                                                                                                                                                                                                                                 PLIARMN-PLSPHPCLQDRKDFGLPQEMVEGSQLQKDgATSVLHEMLQQCENLFHTERSS 97
                                                                                                                                                                                                                                                                                                                                                                                                                53;
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                                                                                                                                                                                                                                                                                                                                                                                                                28; Mismatches
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SOFTWAKE: Patentin Vor. 2.0
                                           Penhalining Prior Application data removed NUMBER OF SEC ID NOS: 2222
                                                                                                                                                   PRIOR APPLICATION NUMBER: 60/351,360 PRIOR FILING DATE: 2002-01-28
                                                                                                                                                                                                                                                     PRIOR FILING DATE: 2002-10-23
PRIOR APPLICATION NUMBER: 60/423,623
PRIOR FILING DATE: 2002-11-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR FILING DATE: 2002 10:02
PRIOR APPLICATION NUMBER: 60/417,611
PRIOR FILING DATE: 2002 10:11
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PRIOR APPLICATION NUMBER: 60/398,008
PRIOR FILING DATE: 2002-07-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: 60/360,000 PRIOR FILING DATE: 2002-02-28 PRIOR APPLICATION NUMBER: 60/378,950
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FRIGH APPLICATION NUMBER: PCT/USEG CA.CS.
FRIGH FILING DATE: 1999-10-15
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FILE REFERENCE: 00689-514/A065
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APPLICANT: Runkel, Laura
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PRIOR APPLICATION NUMBER: 60/417,611
PRIOR FILING DATE: 2002-10-11
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PRIOR FILING DATE: 2002-05-10
PRIOR APPLICATION NUMBER: 60/398, 008
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TITLE OF INVENTION: Albumin Fusion Proteins
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61 EMLQNIFALFRODSSSTÖWNETIVENLLANVYHÖLNHLKIVLEEKLEKEDFTRGKLMSSL 120
                                                                                             61 FMGONTEATERGESSSTEWNETTVENTTANDY HOTSING KILVI FENDERED FROMEMSSE 120
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98.8%: Pred. No. 6.8e-86;
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RESULT 5
PCT-US02 40891 527
Sequence 527, Applies
General INFORMATION:
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SENERAL INFORMATION.
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CURRENT FILING DATE: 2002 12 23
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                FILE REFERENCE: P4564PC1
CURRENT AFF: TATION MUMPES PYT 0,77, 40801
CURRENT FILING DATE: 2002-12-23
PRIOR AUTLICATION NUMBER: 60,34.,811
FRIOR FILING DAIE, 2001-12-21
PRIOR APPLICATION NUMBER: 60,7360,000
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PRIOR FILING DAIE: 2007-11-05
PRIOR APPLICATION NUMBER: 60/351,360
PETDE FILING CAME. 2002-91-28
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PRIOR APPLICATION NUMBER: 60/341,811
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                                                                                                                                                   APPLICANT, Human Genome Sciences, Inc. THILE OF INVENTION, Albumin fusion Floteins
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PRIOR APPLICATION NUMBER: 60/417.611
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PRIOR FILING DATE: 2002-62-28
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 EMIQNIFATERQDSSSTGWNETTVFWILLARVYHQTNHLKIVI FEKTFYFFFFFFFTALMSSL 126
                                                                                                                                                                                                                                                                                                                                                                                                                                   61 EMLQNIFAIFRODSSSTGWNETIVENLLANVYHQINHLKTVLEEKLEKEDFIKEKLMSSL 120
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                                                                                                                                                                                                                          539. Application PC/TUSC240891
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PPIOP APPLICATION NUMBER: 60/441 811
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PRIOR APPLICATION NUMBER: 60,7417,611
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PRIOR FILING DAME: 2002-10-23
PRIOR APPLICATION NUMBER: 60.422 623
PRIOR ETLING PATE: 2002-11-05
PRIOR PRIOR TATION HUMBER: 60.422 760
PRIOR FILING DATE: 2002-01-28
RUMBIND PRIOR PAPILICATION data removed NUMBER OF SEQ II: NOS: 2222
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PRIOR FILING DATE: 2002-02-28
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PRIOR FILLING LATE: 2002-02-28
PRIOR APPLICATION NUMBER: 60/37
PRIOR FILLING LATE: 2002-05-10
PRIOR APPLICATION NUMBER: 60/39
PRIOR FILLING LATE: 2002-07-24
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SOFTWARE established in Vet. 2.0
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6.1 EMIGNIFATEROTOSSSIGMNETIVENILIANNVERGINHEETVIEFFIEFFEEFFENDESIGNSSI, 120
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                                                                                                                                                                                                                                                                                           RESULT 10
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; Sequence 1725, Application PC/TUS0240891
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LENGTH: 166
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                                                                                                                            APPLICANT: Human Genome Sciences, Inc.
TITLE OF INVENTION: Albumin Fusion Proteins
FILE REFERENCE: PF574PCT
                           CHERENT ANTLEYALL'S BUSINES, PURCHSSE2,40892
CORRENT FILLING DATE: 2002-12-28
FRIOR APELCALIUS HOMBER, 66,741,811
PRIOR FILLING DATE: 2001-12-21
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PRIOR APPLICATION NOW.....
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PRIOR APPLICATION NUMBER: 60/414,984
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EILING DATE: 2002-12-23
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                                                                                                                                                                                                                                                                             PRIOR APPLICATION NUMBER 60,7378, 350 PRIOR FILING DATE: 2002-05-10 PRIOR FILING DATE: 2002-07-24 PRIOR APPLICATION NUMBER: 60,7398,008 PRIOR APPLICATION NUMBER: 60,7411,355
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                                                                                                                                                                                                                  PRIOR FILING DATE: 2002-09-18
PRIOR APPLICATION NUMBER: 60/414,984
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PRIOR APPLICATION NUMBER: 60/360 000
PRIOR FILING DATE: 2002-02-29
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PRIOR APPLICATION NUMBER: 60/420,246
PRIOR ETLING DATE: 2002-10-23
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Remaining Prior Application data removed - See File Wrapper or PALM
                                                   PRIOR APPLICATION NUMBER: 60/350,358
                                                                       PRIOR APPLICATION NUMBER: 60/423,623 PRIOR FILING DATE: 2802:11:05
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PRIOR APPLICATION NUMBER: 60/278,950
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61 EMILANIFAIFPOPSSSTGWNETTVENLLANVYHOINHLKTVLEEKLEKPPFFFAALMSSL 120
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PRIOR FILLING DATE: 2002-91-24
PRIOR FILLING DATE: 2002-91-24
PRIOR FILLING DATE: APPLICATION data comoved . See File Wrapper of PALM.
NUMBER OF SED 1D NOS: 858
SCFTWASE: Patentin Ver. 2.0
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Pred. No. 6.9e-86;
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2 Sequence 647, Application PMTES0240892

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3 Sequence 167, Apr
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             CHRRENT APPLICATION NUMBER: PCT/91S02/40802
CHRRENT FILING DATE: 2002-12-23
PRIOR APPLICATION NUMBER: 60/341,811
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APPLICANT: Human Genome Sciences, Inc.
                                                                               HILLE OF INVENTION: Albumin Fusion proteins FILE REFERENCE: PF574PCT
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ERIOR FILING DAFE:
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APPLICANT: Human Genome Sciences, Inc
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PRIOR FILING DATE: 2002-11-05
PRIOP APPLICATION NUMBER: 60/350,358
PRIOP FILING DATE: 2002-01-24
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PRIOR APPLICATION NUMBER: 60/378,950
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                                                    PRIOR FILING DATE:
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Remaining Prior Application data removed - See File Wrapper or PALM.

RIMMER of SEQ ID NOS: 858

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 648

LENGTH: 166

TYPE: PRT

ORGANISM: Homo Sapiers

PCT-US02-40892-648

Oucry Match
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Matches 164: Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Oy 1 MSYNLLGFIQFSSNFGCGKLLWGLNGRLETGLKDRNNFDIFEEIKGLQJFGKEDAALTIY 60

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Pred. No. is the number of results predicted by chance to have a score dreater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

### SUMMARIES

Result No.	Score	Query Match	Query Match Length	ВС	ID	Description
- !	829	9.78	166	4	US-09-397-992A-7	Sequence 7. Appli
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16	822	94.8	166	4	US-09-487-792-21	21,
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5PATENT NO. 5514567
5 APPLICANT: SUGAND, HARDO; MURAMATSU, MASAMI; TANIGUCHI, TADATSUGU
5 TITLE OF INVENTION: DNA AND RECOMBINANT PLASMID

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1 MAYAA   1   1   1   1   1   1   1   1   1   1	Patent No. 6329175  GENERAL INFORMATION: APPLICANT: CONKIID, Darrell APPLICANT: Grant, Francis J. AFLICANT: Rixon, Mark W. AFFLICANT: 1846 9 46 ETTE REFERENCE 1846 9 10 ETTE REFERENCE 1846 ETTE AFFLICATION NUMBER: 60/101.01 ERGAR AFFLICATION NUMBER: 60/142.76 PRIOR APPLICATION NUMBER: 60/142.76 PRIOR APPLICATION NOS: 33 SOFTWARE: FASTSEQ for Windows Versi SOFTWARE: FASTSEQ for Windows Versi SOFTWARE: Homo Sapiens (S-09-397-992A-7) UNEFT MATCH ORGANISM: Homo Sapiens (S-09-397-992A-7) UNEFT MATCH MALCHYS 159 CONSERVATIVE I. M MALCHYS 159 CONSERVATIVE  MALCHYS	1 397-9:	200 341 200 331 271 334 271 271 271 271 271 271 271 271
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                                                        Respuence 30. Application US/08406030A
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Best Dacker
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APPLICANT: Godowski, Faul J.
APPLICANT: Wood, William I.
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SRCANTSM: Home sapiens
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FILINI DATE: US MAR 1995
PRIOR APPILIATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                              142 HLKRYYGKILHYLKAKEYSHCAWTIVRVEILRNEYFINRLTGYLRN 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 HLERYYGRICHYLKAREYSH AWIIVRVEILRNEYRINKLIGYLRN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 HIERYYGRILHYLKARRYSIFYAWTIVRVEILRNEYRINRLIGYERN 166
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FILLING DATE: 27 oct 1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  82 EMLQNIFAIFRQUSSSIGWNETIVENILLANVYHQINHLKTYLLEKKLEKEDETRGKLMSSL 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPILICATION NUMBER:
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                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER: 1K195-01
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 861-6240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
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FILING DATE: 03-DBC-1992
PRIOR APPLICATION NUMBER: US 07/911,533
FILING DATE: 10.JUL-1992
PRIOR APPLICATION NUMBER: US 07/787,840
APPLICATION NUMBER: US 07/787,840
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FILING DATE: 13-MAY-1994
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OPERATING SYSTEM. FC Des/MS DOS
SOPTWARE: Patentin Release #1.0, Version #1.80
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE: 02-DEC-1993 PRIOR APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Heartlein, Michael W. APPLICANT: Hauge, Brian M. APPLICANT: Selden, Richard F
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                    121 HUKRYYGRILHYLKAKEYSHCAWTIVKVEILKNIYKINKLIGYLKN 166
                                                              82 EMIQNIFAIFRQUSSSTGWNFIIVFNLLANVYHQINHLKIVLEEKLEKEUFIKGKLMSSI 141
                                                                                                                                              22 MSYNLLGELGESSNEGOGKLINGLREIGLYCLKTSMRFSTFBELKGLQGFGELFAALITY 81
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COMPUTER: IBM PC compatible
                                                                                                      61 EMLQNIFATERODSSSTOWNETTVENILLANVYHOTINETKTVEFKERFERENATMSSL 120
                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER:
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tch 95.6%; Score 829; DB 4: Length 187; al Similarity 95.8%, Fred. No. 6.2e-83; 159; Conservative 1; Mismatches 6; Indels
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RATION NUMBER: 32,227
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                                                                                    Massachusetts
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Two Militia Drive
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05 NOV-1992
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142 HIKRYYGRILHYIKAKEYSHCAWTIVPVEII PNEYFINELTGYLEN 187

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: TYPE: PRT
: ORGANISM: Homo sapiens
US-09-206-945-7
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APPLICANT: Godjowski, Paul
APPLICANT: Godjowski, Paul
APPLICANT: Wood, William I.
APPLICANT: Zhang, Dong-Xiao
TITLE OF INVENTION: NOVEL TYPE I INTEREERONS
FILE REFERENCE: 11668 501208
CURPENT APPLICATION NUMBER: FRANCES
CURRENT FILING DATF: 1948-12-07
EARLIER APPLICATION NUMBER: 50/084,045
EARLIER FILING DATF: 1948-05-04
NUMBER OF SEQ ID NOS: 24
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Patent No. 6299877
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                                                                                          Ouery Match 95.6%; Score 829; DB 4; Length 187; Best Local Similarity 95.8%; Pred. No. 6.2e-83; Matches 159; Conservative 1; Mismatches 6; Indols
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CHERENT APPLICATION NUMBER 15,00,7202,122
CURRENT FILING DATE: 1995-03-04
PF105 APPLICATION NUMBER 1911/00.99/25572
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APPLICANT: Godowski, Paul
APPLICANT: Wood, William I.
APPLICANT: Zhand, Dond-Xiao
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22 MSYNLLGFLQRSSNFQCQKLLWQLNGRLEYCLKDRMNFDIPEEIKQLQQFQKEDAAL1IY 81
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APPLICANT: Human Ge
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Best Local
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CUERENT APPILICALLIN NUMBER: US/09/487,792
CUERENT FILING DATE: 2000-01-20
EARLIER APPLICATION NUMBER: 60/093/643
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APPLICANT: Wood, William I
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EARLIER FILING DATE: 1998-12-08
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                                                                                              local Similarity 95.8
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1 MAYAALGACQASSNEQCQXLLINGI NOW EY TIKDERNEDI PEETKQLQQPQKEDAALTIY 60
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Similarity 95.8%; Pred. No. 6.2e-83;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; Sequence 1, Application US/08477 (10A); Patent No. 5814485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US 08-477-310A-1
                                                                            Matches 158; Conservative
                                                                                                                Query Match
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                                                                                                                                                                                                                                                                                      TELEPHONE: (510) 923-2704
TELEFAX: (510) 655-3542
INFORMATION FOR SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWAKE. Patenth Release #1.0, Version #1.40
CURRENT APPLICATION DATA:
                                                                                                                                                                          MOLECULE TYPE:
                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                              REFERENCE/DOCKET NUMBER: 96
TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: Bacterial Production of Hydrophobic TITLE OF INVENTION: Polypeptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: McAlary, Patrick ... APPLICANT: Wong, Kathleen M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          310 EMEQNIFATERQUSSSIGWNETTVENLLANVYBQTNBLKTVLEKKEDFTRGKLMSSL 269
                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    250 MSYNLLGFLÖRSSNFÖGÖKLLIMOLNGKLEYGLKUKMNFU (PEFLKOLOOFOKEJAALTIY 309
                                                                                          / Match 95.4%; Score 827; UR 2; Length 166; Local Similarity 95.2%; Pred. No. 8.80-84;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY:
                                                                                                                                                                                            TOPOLOGY:
                                                                                                                                                                                                              STRANDEDNESS: single
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                    1 MSYNLLGFLORSSNEOCOKLLWOLNGKLEYCLKDRMNEDTPEETKOLOOFOKEDAALTTY 60
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similarity 95.8%;
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                                                                                                                                                                                                                                amino acid
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                                                                                                                                                                        protein
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                                                                                                                                                                                                                                                                                                                                                                                  36,482
                                                                            Mismatches
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Pred. No. 1,9e-82;
1: Mismatches 6
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                                                                            6; Indels 0; Gaps
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61 EMEQNITATITRODSSSTGWNETTVENGLANVYHQINGEKIVELLELEKEDTIROALMSSL 120

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US-08-213-448-1
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/ Patent No. 5545723
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Sequence 1, Application US/08912768
                                                                                                                                                                                                                                                                                                           Matches 158; Conservative
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ATTORNEY/AGENT INFORMATION:
NAME: Haley Jr., James F
KERTSTMATION NUMBER: 27,
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FELECOMMUNICATION INFORMATION:
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APPLICANT: Cate, Richard L
APPLICANT: Pepinsky, Blake R
APPLICANT: Chow, Pinachang E
                                                                                   121 HIKRYYGRILHYIKAKEYSHOAWTIVRVETI KNEYFINKLIGYLKN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: 4
                                                                                                                                                        61 EMLONIFALFRODSSSTGWNETIVENLLANVYHQINHLKTFLEEKLEKEDFTRGKLMSSL 120
                                                                                                                                                                                           61 EMIGNIFATERODSSSTGWNETTVENLLANVYHOTNHEKTVEEKKLEKEDFTEGALMSSL 120
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OPERATING SYSTEM: PC-DOS/MS-DOS
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STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
SikANDEDNESS: Sir
                                                                                                                                                                                                                            1 MSYNLLGELQRSSNEQCQKLLWQLNGRLEYCLKDRMNEDIPEFIKQIQQFQKEDAALTIY 60
                                                                                                                                                                                                                                               COUNTRY:
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                                                                                                                                                                                                                                                                                                th 95.0%; Score 824; DB 1; Longth 166; similarity 95.2%, Ind. No. Low 82, 58; Conservative 1; Mismatches 7; Indels 0; Gaps
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Fish & Neave, 1251 Avenue of the Americas
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VENTION: No. 554572 Tel Muteins Of IFN-Beta
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IBM PC compatible
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3ER: 27,794
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                                                                                                                                                            RESULT 14
PCT-US95-
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                                                                                                                                    Sequence 1, Application PC/TUS9503206
                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches 158; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                     GENERAL INFORMATION:
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GENERAL INFORMATION:
                                                                                                                                                      -US95-03206-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: (212) 596-90 INFORMATION FOR SEQ ID NO:
                                                             APPLICANT: Biogen, Inc.
APPLICANT: Goelz, Susan &
APPLICANT: Cate, Richard L
NUMBER OF SEQUENCES:
              APPLICANT: Pepinsky, Blake R
APPLICANT: Chow, Pingchand E
TITLE OF INVENTION: Novel Mort
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ANTI-SENSE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE:
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TELECOMMUNICATION INFORMATION:
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APPLICANT: Cate, Richard L
APPLICANT: Perinsty, Wlake P
APPLICANT: Chow, Pingchand E
TITLE OF INVENITION: No. 6127332cl Muteins Of IFN Heta
                                                                                                                                                                                                                    HYPOTHETICAL:
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APPLICATION NUMBER:
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                                                                                                                                                                                                                                                                                       61 EMIQNIFATERQDSSSTGWRFTTVENT LANVYBÇTNILKTYLETETEP POPTBEALMSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                             y Match 95.0%; Score 824, DB 3, Length 166;
Local Similarity 95.2%; Fred. No. 1.7e-82;
Nes 158; Conservative 1; Mismatches 7; Indels 0; Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE: Floppy disk
COMPUTER: 18M PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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SERBISTONDENCE ADDRESS

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                                                                                                                                                                                                                                                                                                                                                      Sequence 3. Application US/08912768
Fatent No. 612733
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TELEPAX: (212) 596-9090
INFORMATION FOR EACH IL NO. 1:
SEQUENCE CHARACTERISTICS:
COMPUTER: (EM FO COMPUTER: THE FORM:
                                                                                                                                                                                                        APPLITANT: Cate, Richard I.
APPLITANT: Peptinsky, Blake R
APPLITANT: Claw, Pinchard E
LITLE OF INVENTION: No. 6127832cl Mateins of TENCHOTA
NUMBER OF SEQUENCES: 9
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ALTORNEY/ACTENT INFORMATION:
NAME: Haley Jr., James F
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OFFRATING SYSTEM: FOR DOSYMS DOS
SOFTWARE: FALSOLIN BALA:
OTRECHI APPLICATION DATA:
APPLICATION NUMBER: FOLDOSOS, SOFT
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STATE: New York
STATE: New York
                                                                                       CHINTRY
                                                                                                          STATE:
                                                                                                                           CITY: Now York
                                                                                                                                          AbbRESSEE: James F. Haloy, Jr. STREET: Fish & Neare, 1251 Avenue of the Americas
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TYPE: amino acid
SIFANDEDNESS: circlio
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INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 187 amino acids
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SOPTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE: protein
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                                                           CLASSIFICATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 08/475,774
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Copyright (c) 1993 - 2003 Compugen Ltd.
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No.	Score	Match	Match Length DB	В	0.1	Description
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7	829	95.6	187	.1	US-09-788-552-1	
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Sequence 24. Application 08/03/832658
Figure College No. 98/00. 600/21765A1
GENERAL INFORMATION:
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AFFLICANT: Frobinsky, Bi
AFFLICANT: Brickelmaler
AFFLICANT: Brickelmaler
AFFLICANT: Whitty, Adri
AFFLICANT: Hochman, Pau
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Best Local 8
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CURRENT AFPLIATION NUMBER: US/UJ,832,658
CURRENT FILING DATE: 2001-04-11
FALSE AFFLIAGION NUMBER: UJ/104,572
PRIOR FILING DATE: 1998-10-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR FILING DATE: 1999-02-16
NUMBER OF SEQ ID NOS: 29
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: FastSEQ for Windows Version 4.0
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                                                                                                                                                                                                                                                                                                                                                              ORGANISM: human
                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
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121 BLKSYYGETLBYLKAKIYSHOAWITVEVELLKEYFETHRUGOYLKE 166
                                                               61 BMCQNIFATERGESSETTWHET IVENT ANVESCIMENT IVENT FER FREDERICALMSSL 120
61 EMIQNIFATERGESSSTTWHET IVENT ANVESCIMENT IVENT FER FREDERICALMSSL 120
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Buickelmaier, Margot
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FILE REPERENCE, ADDALFSISED
FUNKEHI ALLICATION NONBER, GS.T.C.POT.FT
FUNKENI FILING DATE: 2001-04-11
PRIOK APPLICATION NUMBER, GS/1220,247
FUNK FULLN: DATE: 1999-02-15
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PRICE FILING DATE: 1598-09-18
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121 HERRYYGK HAIYEKAKEYSH AWTI VEVETEN HALLIGYEN 166
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  95.8%;
Score 829; DB 9; Length 183; Pred. No. 1.9e-76;
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                                                                                                                                                                                                                                                                                                                                                       ; GENERAL INFORMATION:
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                                APPLICANT: Horndes, Claus
APPLICANT: Andersen, Kim Vilbour
APPLICANT: Rasmussen, Foul Badd
APPLICANT: Federsen, Anders Hielbolt
TITLE OF INVENTION: POLYPEPTIDES
FILE REFERENCE: 0220us210
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TITLE OF INVENTION: and Uses
FILE REFERENCE: A065PCT
CURRENT APPLICATION NUMBER: US/10/004, 201
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CURRENT FILING DATE: 2001-04-11
PRIOR APPLICATION NUMBER: 60/104,572
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BREAKHEALE STATES OF SELEMBER COLOR AND SELECTION OF SEL
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Local Similarity 95.8%;
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Runkel, Laura
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Pred. No. 1.9e-76;
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GENERAL INTERNATION:
APPLICANT: Chen, Jian
APPLICANT: Chen, Jian
APPLICANT: Godowski, Paul
APPLICANT: Godowski, Paul
APPLICANT: Zhang, Dond-Xiao
FILICANT: Zhang, Human (replacement)
CUMPRENT AFFICANTE: 2001-07-30
FILICANTE FILING DATE: 2001-07-30
FILICANTE MATE: 1994-07-30
FILICANTE MATE: 1
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; Sequence 9, Application US/29919622A
; Patent No. US20020172660AI
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Matches 159; Conservative
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PRIOR APPLICATION NUMBER: US 60/245/645
PRIOR FILING DATE: 2000-11-02
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ORGANISM: Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       y Match 95.6%: Score 829: DB 9: Length 187: Local Similarity 95.8%, Pred. No. 1.9e-76; hos 159: Conservative 1: Mismatches 6: Indels
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                                                                                                                                                                                                                               61 EMIGNIERIERGESSSTEWNETIVENLLANVYHQINHLKTVLEEKLEKEEFTRGALMSSL 120
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95.8%; Pred. No. 1.9e-76;
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GENERAL INFORMATION:
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; LENGTH: 399
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                     Matches 159; Conservative
                                                                                                                                                        Query Match
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FILE OF INVENTION: Interferon Bota Fusion Protoins and Uses

FILE RESPENIES ANDAPOTSED

PARENT FILING DATE: 2001-04 11

CURRENT FILING DATE: 2001-04 11

PRIOR FILING DATE: 1998-02-16

PRIOR FILING DATE: 1998-10-16

PRIOR FILING DATE: 1998-10-16
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                                                                                                                                                                                                                                                                                                SOFTWARE: PatentIn Ver. 2.0
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ORGANISM: Homo sapiens
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61 EMEĞNIFALERÇESSSEGNNET OPENULARVIRÇINHERTVERERLEKKEPETROJALMSSI. 120
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                                   1 MAYAALGATQASSNEQOQKITIMQI NGBLEYOTKORMNEDTDEETKQIQQEQKEDAALTIY 60
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                                                                                                                                        h 95.6%; Score 829; DB 9; Length 899;
Similarity 95.8%, Prod. No. 5.1e 76;
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Farent No. US/2022 FOLEAN
SENERAL INFORMATION.
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Patent No. US2002-026399Al
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FILE PERSON'S OVERTOR WINNER, US 10,7784,555
OTHERENT FILING DATE: 2001 08-23
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CHERENI APPLICATE WIMMER, UC,09,927,858
CHERENI FILINI BALE: Z001 08:10
FRIOR APPLICATION NUMBER: 09,724,868
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         y Match 94.84 Score 822; DR 10; Length 166; Level Similarity 95.28; Pred. No. 8:576; Length 166; by 158; Conservative I; Mismatches 7; Indels (
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: Sequence 42, Application US/19842659
: Patent No. US20020155547Al
: GENERAL INFORMATION:
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Fublication No. 0820030021765A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO 25
                                                                                                                                                                         APPLICANT: BIOGEN, INC. TITLE OF INVENTION: Interferon Beta Fusion Proteins and Uses FILE REPERENCE: A064PCTSEQ
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PRIOR APPLICATION NUMBER: 60/104,572
PRIOR FILING DATE: 1998-10-16
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FILE REFERENCE: A065PCT
COSRERU ACPULCACUA REMBUR, UL/O/882/658
                                                         PRIOR APPLICATION NUMBER: 60/2120,237 PRIOR FILING DATE: 1999-02-16
                                                                                                                  CURRENT APPLICATION NUMBER: 05/05/832,659 CURRENT FILING DATE: 2001-04-11
PRIOR FILING DATE: 1998-10-16
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NUMBER OF SEQ ID NOS: 29
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: Polymer Conjugates of interferon Retaila FITLE OF INVENTION: and Uses
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                                 PRIOR APPLICATION NUMBER: 60/104,491
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 BULEYYGETIJA GEARLY SHUAW, I VEVLIGEN YETHELL JYDKN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 BLEETYGEILHYLEAKEYSHCAWTIYRVEILEMFYEIMELTGYLEN 166
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Brickelmaier, Margot
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Sequence 4, Application US/09725433
Patent No. US20020068362A1
GENERAL INFORMATION:
APPLICANT: No. US20020068362Alartis AG
FITLE OF INVENTION: Increased transdene expression in retroviral vectors having a sca
FITLE OF INVENTION: attachment region
FITE REFERENCE: 4-30921B/SYS
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US-09-725-433-4
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: SOFTWARE: Pate
: SEQ ID No. 42
: LENGTH: 418
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; Patent No. US20020155547A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cuery Match 94.6%; Score 820; DB 9; Length 423; Best Local Similarity 95.2%; Pred. No. 4.5e-75; Matches 158; Conservative 1; Mismatches 7; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                THILE OF INVENTION: Interferon-Beta Fusion Proteins and Uses FILE REFERENCE: A064PCTSEQ CUPERNT AFFLICATION NUMBER: 05/30/44/2/554 CURRENT FILING DATE: 2001-04-11 PRIOR APPLICATION NUMBER: 60/120/237 PRIOR APPLICATION NUMBER: 60/120/237 PRIOR APPLICATION NUMBER: 60/120/237 PRIOR APPLICATION NUMBER: 60/120/237 PRIOR FILING DATE: 1998-10-16
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SOFTWARE: PatentIn Ver. 2.0
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TYPE: PRT
ORGANISM: Homo sapiens
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SOFTWARE: Patentin Ver. 2.0
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                                                                                                                                                                                                                                       145 HLKRYYGRILHYLKAKEYSHCAWTIVRVEILRNFYFINRLTCYLRN 190
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US-09-83-658-28

: Sequence 28, Aprilication US/09831658

: Onblication No. US20030021765A1
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US-09-725-433-4
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CURRENT FILLING DATE: 2001-04-11
PRIOR APPLICATION NUMBER 60,004,572
PRIOR FILING DATE: 1998-10-16
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APPLICANT: Hochman, Paula
TITLE OF INVENTION: Polymer Conjugates of Interferon Heta-la
TITLE OF INVENTION: and Uses
FILE REFERENCE: A065PCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR FILING DATE: 1999-02-16
NUMBER OF SEC ID NOS: 29
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CUPPENT PHITM DATE: 2000-11-29
NUMBER OF SEQ ID NOS: 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: human
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121 HLKRYYGRILHYLKAKEYAACAWTIVRVEILKNFYEINKLIGYLKN 166
                                                                                    121 HLKRYYGRILHYLKAKBYSHCAWIIVKVEILKNEYRINKLIGYLKN 166
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                                                                                                                                                                                                                                                                                                                                                            L MAYAALGAISANSHOOGKILMGINGRIEYCIKIDRMAHTAEIKULQOFGKEDAALTIY 60
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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Protein sequence e	Sequence encoded b	Sequence of interf	Human interferon-b	Alanine mutant of	Human interferon-b	Human interferon-b	Human interferon b	Wild type human in	Amino acid segeunc	Description	

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Mature human beta		166		859	9.1
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Alanine matant of		166	98.5	859	14
Human native inter		166	98.5	859	13
Sequence of interf		166		859	12

## ALIGNMENTS

RESULT 1

AAY84949 standard, Protein; 166 AA.

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1811 04 24 27	
21-AUG-2000 (first entry)	
Amino acid sequence of huma	Amino weld sequence of human interferon beta la protein.
and a statement as the second of testinators	ala de lames de laglikatore alacola tumoura
Candel, automiliane conditio	
Vifai discuse, andiodenic discuse.	randad.
Homo sapiens.	
WO200023114-A2.	
27-APR-2000.	
15-00T-1999; 99WO-US24201.	
16-OCT-1998; 98US-0104572.	
16-FEB-1999; 99US-0120161	
(B10J ) BICGEN INC.	
Pepinsky B, Punkel L, Bri	Brickelmater M. Whitty A. Hochman P.
WPT: 2000 329534/29.	
New glycosylated interteron occurring polymer contains:	New glycosylated interferon-beta-la compled to a non-naturally occurring polymer centaining a polyalkylene glycol useful for treating

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                         UTT-UK at
                                                                  Deamain
                                                                                                                                                                                                                                                                                                       Human: interferon:beta: FEN-beta: immunoglobalin; fusion protein; andiespessis: antiselerotic; antihilammatory; immunosuppressize, cytostatic: zirucide; hepatotropic; antianglogenic; treatment; fi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IFN beta In from proteolytic diquestion and subsequent abolition activity, and increased thermal stability. The polymer based conjugates are useful to treating tumors and cancer, as well as autoimmune conditions such as tiboosis. lugas and multiple sclerosis, these may also be used in the treatment of viral diseases, as well as in the treatment of anglogenic diseases. IFN betala is useful as an agent for the treatment, remission or attenuation of a disease state, physiological condition, symptoms or etiological tactors, or to their evaluation or diseases. The IFN betala polymer conjugates may also be used to prophylaxis or treatment of any condition or disease state for which the IFN betala constituent is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              the present sequence represents buman interteron beta la (IEN betala) protein. The protein is used to produce a composition comprising a diversely and IEN betala properties a diversely and IEN betala compled to a non-naturally occurring polymer containing a polyatkylene diveol. The composition has enhanced activity measured by in intitial issue, as computed to physiclorically activity for both betalathymer into both administration has increased.
                                                                                                             Leamortin
                                                                                                                                                    la marn
                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                              hepatitus: viral intection; neovascularisation; IEN-beta-la.
                                                                                                                                                                                                                                                                                                                                                                                            Wild type buman interferon-beta protein.
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note: the present sequence does not appear in the specification; it
                                                                                                                                                                                                                                                                                  multiple selections:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           was created using intormation provided.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         stability in solution, reduced immunogenicity, protection of the modified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 1: Page (2: /3pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LET HEKRYSHILHVEKAKEYSHOAWTIVRVETERNEYRINKETGYEN 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          131 BLEFYYTRICHYLANDLIVKVHIVKTHANDLINDEN 166
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                                                                                                                                                                         boost ion/gualities
                                                                                                                                                                                                                                                                                e; hepatotropic; antiangiogenic; treatment; tibrosis; inflammatory disease; antelmmane disease, cancer,
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H-lix ○
                                         He-lix B
                                                                                    Alte Loup
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AAY70907

AAY70907 standard; Protein; 166 AA

Human; interferon beta; IPN beta; immunoalobulin; fusion protein; mutant

Human interferon-beta alanine substituted mutant H93A

31-JUL 2000 (first entry)

AAY70907;

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Best Local .
                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                    a wild-type human interferon-beta protein which was used to generate alanine substituted mutants that have substitutions in helices A, B, C, D or E, or loops AB, CD or DE. The TEN-beta mutants were
                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          fusion protein is useful for inhibiting angiogenesis in a parient It may also be used to treat multiple sciences, fibrosis, fibramand autoimmune diseases, cancers, hepatitis and viral intertion and autoimmune diseases, cancers, hepatitis and viral intertion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The patent discloses tasion proteins comprising alycosylated interferon-beta (FN beta) especially FN beta la, linker groups and non-FN beta proteins, especially an immunoglobulin ([4]) protein. The
                                                                                                                                                                                                                                                                                                                                                                                                                assessed for receptor binding and functional activities e.g. anticinal and antiproliterative activities. Mutants having desired characteristics
                                                                                                                                                                                                                                                                                                                                                                                                were used to denerate IFN beta fusion proteins.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            characterised by neorascularisation. The present sequence is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 1; Page 46; 82pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Fusion proteins comprising interferon-beta-la useful for inhibiting
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                                                      121 HEKPYYTRIT HYLKAMIYSHCAWT EVRVIII EXHYBINGLIIGYLRN 166
                                                                                                                            61 EMEQNIFAIFKÓDSSSTGWRITTAUNLLANAYHOLNHEKTALEEKLEKEGFIGGALMSSE LE
                                                                                                                                                                  61 EMIQNIFALFRODSSSTCWNETIVENIJANVYHQINHLKTVLEEKLEKEDFIRGALMSSL 120
                                                                                                                                                                                                                          1 MSYNELGFEGERSSNF@C@KillwgilngriebyclnormnepipselbgliggegredoAality 60
                                                                                                                                                                                                                                                                                  166;
                                                                                                                                                                                                                                                                          h 100.0%; Score 872; DB 21; Lenath 16-;
Similarity 100.0%; Fred. No. 2.3e 71;
66; Conservative 9; Mismatches 0; Indels 9
                                                                                                                                                                                                                                                                                                                                                              166 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                  The patent discloses justem proteins comprising allycosylited of interferon-beta (EFR keta) especially an immunoglobulin (1a) protein. The non-IFN-beta proteins, especially an immunoglobulin (1a) protein. The trision protein is useful for inhibiting anylogonosis in a partient to it may also be used to treat multiple sclerosis, fibrosis, inflammatory and autoimmune discases, cancers, hepatitis and viral infection of characterised by neovascularisation. The present sequence is characterised by neovascularisation. The present sequence is the characterised by neovascularisation. The present sequence is the effects of mutant was analysed in antiviral assays to assess the effects of mutating the histidines which chelate Zinc in the crystal structure of dimer. The His mutants retained wild type activity squareting that the formation is in important for IFV 1-4 and activity squareting that of their the present sequence is not shown in the specification but is converted them for his and IFV beta sequence found in page 36 converted them.
                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
Matches 165; Conserv
WORLD AWV
                                AAY70908 Standard, Protein,
                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Misc-difference 93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  indivolences is antisoleratic; antiinflammatory immunosuppressive; cytostaric, virudide, hepatotopic; antiangiodenic; treatment; librosis; multiple solerosis; inflammatory disease, antoimmune disease; cancer; tepatitis; viral intection; neuvascularisation; IFN-keta-la.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 1: Page -: 82pp: English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Fusion proteins comprising interteron beta la useful for inhibiting
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16-001 1998;
                                                                                                                            121
                                                                                                                                                        121 HIKPYYGPILHYLKAKEYSH°AWTIVEVEILEMPYPINRLIGYLEN 166
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                                                                                                                      HIKRYYGRILHYIKAKEYSH'AWTIVEVBILRNEYRINRLTGYLRN 166
                                                                                                                                                                                                              EMI-WHIPAITR-DSSSTEWHITIVENILANVYHQINHLKTVLEEKLEKEDSIRGALMSSL 120
                                                                                                                                                                                                                                                             EMIGNIFALTRODSSSTGWNETIVERILLANVYAQINHLKTVLEEKLEKEDFIRGALMSSL 120
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                                                                                                                                                                                                                                                                                                                                                                                                                  166 AA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rankol I.,
                                                                                                                                                                                                                                                                                                                                          Conservative
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9908-0120237
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                                                                                                                                                                                                                                                                                                                                                       98.3%;
99.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Brickelmaier M.
                                  166
                                                                                                                                                                                                                                                                                                                                      Score 862: DB 21: Length 166;
Pred. No. 1.8e-70;
0; Mismatches 1: Indels
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                                                                                                                                                    g.
                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local :
                                                                                                                                                                                                                           Matches 165;
                                                                                                                                                                                                                                                                                                                                                        It may also be used to treat multiple sclerosis, fibrosis, inflammatory and autoimmune diseases, careers, legalitis and viral intection that actualized by incolars, larisation. The present sequence is a human interferon-beta alamine substituted mutant H97A. The matant was analysed in antiviral assays to assess the effects of mutating the histidines which chelate that in the crystal structure dimer. The His mutants retained wild type activity shadesting that 2 incompdiated dimer formation is not important for IPN beta activity. Note: The present sequence is not shown in the specification but is derived from wild type human IFN beta sequence found in page 6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Misc-difference '47
                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The patent discloses fusion proteins comprising alycosylated interferon-bota (IFN-bota) especially IFN-bota-la. Linker groups and non-IFN-bota proteins, especially an immunoalobulin (14) protein. The fusion protein is useful for inhibiting andiogenesis in a patient.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ension proteins comprising interferon-beta la useful for inhibiting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Whitty A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             16-00T-1998;
16-FEB-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cytostatic, virucide; hepatotropic; antransiodenic; freatment; fibros multiple sclerosis; inflammatory disease; autoimmune disease; cancer, kepatitis; miral infection; remarkatin; ctim; IPN-beta-la.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human, interferon beta, IFN beta, immunoalobulin; tusion protein; mutant; anglogenesis; antiselerotic; antilulammatory; immunesuppressive;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 1: Page -: 82pp: English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15 CMT 1999,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           27 - APR : 2000
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                                                                                                                                                                                                                                                                                                                                              (AAY70871)
6.3
6.3
                                    121 HIKEYYCEILHYLKAKIYSBOMFINSVEILSHIYKINSKIOYLKA 166
                                                                                                                                                                       HEKRYYGKI LIPYLKAKIYSIR'AWTTYKYUTILIRIYKI NKI JOYLKI 156
                                                                                                              EMEQNIFA FERQUSSSTOWNET I VENELANVYEQ I NHILKT VILEEKLEKEEP TEGALMSSE. I LIG
                                                                                                                                                  MSYNLLCETQRESSNEQCORTUNATING TRIEST TIKERNIETETETETETETETETETERAALTIY FO
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                                                                        EMEQNIFATERODSSSTGWNETTVENLLANVYHOTNALKIVEEDKEEKEETEENALMEST
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                                                                                                                                                                                                                                           h 98.9%; Score 862; DH 21; Length 166;
Similarity 99.4%; Fred. No. 1.86 70;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Runkel L.
                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                       166 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9908-0120237
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /mote: "Wild type His is substituted by Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Brickelmaler M. Foehman Fr
                                                                                                                                                                                                                               © Mismatches
                                                                                                                                                                                                                               l: Indels
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RESULT 5

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The patent discloses fusion proteins comprising dyposylated interferent beta (FEN beta) especially FEN beta-it. Thise groups and non-HEN beta proteins, especially an immunoglobulin (Id) protein. The unston protein is useful for inhibiting analogenesis in a patient. If may also be used to treat multiple selectosis, librosis, inflammatory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                e. drambass
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (AAY/OH71)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    derived from wild type human IFN-beta sequence found in page 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            characterised by megascularisation. The present sequence is a human interfer n beta alamine substituted mutant H121A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Whirty A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Moramoratic Va
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and autoimmune diseases, cancers, hepatitis and viral intection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (Blod ) Bloden inc
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121 BLKPYYDELLBNIGAEYSBYGEWAYLENDYGAYARIL GOYYARALL
                                                                        P. T. SSWING GARDALE STATE OF STREET 
                                                                                                                                                    61 EMILONIFATERODSSSTUWNETTVENGLANVYHOTNHLKTVLEEKLEKEDETROALMSSL 120
                                                                                                                                                                                                                                                                                                        OF ALTITOVOLIAC LOOTON FINE FILENWELTS, AND BON FOM FAMILY OF SAIDTROTHNASM.
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                                                                                                                                                                                                                            MOYNLO HIGGESINEGESCHIEWICH BELEET INDEMNED FEELESCHOOLIGESCHOOLIGES
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                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JAN AA
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                                                                                                                                                                                                                                                                                                                                                                                                                    98.9%; Score 862; DB 21; Length 166; 99.4%; Fred. No. 1.8e-70;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Brickelmaier M.
                                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches
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121 ALKRYYGRILHYLKAKEYSHCAWITYKYETILKNEYRINKIIGYILKN 166
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15-OCT-1999;
                                                                                                                                                                                                                                                                               /hote "wild type bys replaced with Ala" Mise\mbox{-}difference 137
                                                                                                                                                                                                                                                                                           Misc difference 136
                                                                                                                                                                                                                                                                                                                              viral disease; andiogenic disease.
                                                                                                                                                                                                                                                                                                                                   Interferon beta la: IFN-betala: polymer: polyalkylene dlycel: tumo:::
cancer; autoimmune condition: tibrosis; lupus; multiple sclerosis;
                                                                                                                                                                                                                                                                                                                                                    Alanine mutant of human interteron beta la protein.
                                                                                                                                                                                                                                                                                                                                                                                       AAY84962 standard; Protein;
                                                                                                                                                                                                                                                               WO200023114-A2
                                                                                                                                                                                                                                                                                                            Homo sapiens.
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                                                                                                                                                                                                                                                                                                                                                                             AAY84962;
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                                                                                                                                                                                                                                                                                                location/Qualitiers
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WPI: 2000-339534/29. Pepinsky B, Runkel L, (BIOJ ) BIOGEN INC 16-0CT-1998; 16-FEB-1999; 9908-0120161 9808-0104572 Brickelmaier M. Whitty A. Hochman P:

diseases occurring polymer containing a polyackylene glycol useful for treating e.g. tumors, autoimmune disorders, viral intections and angiogenic New glycosylated interferon beta-la coupled to a non-naturally

Example 1; Page ; 73pp; English.

treatment, remission or attenuation of a disease state, physiological condition, symptoms or effological factors, or for their evaluation or disagnosis. The IFN betala polymer conjugates may also be used for prophylaxis or treatment of any condition or disease state for which the IFN betala constituent is efficacions, in biological systems or specimens, note; the present sequence does not appear in the activity, and increased thermal stability. The polymer based conjugates are useful for treating times and cancer, as well as auto monne conditions such as fibrosis, lupus and multiple selectosis. These may also be used in the treatment of viral diseases, as well as in the treatment of annioquite diseases. IFN betala is useful as an agent for the column of annioquite diseases. stability in solution, reduced immunogenicity, protection of the modified IFN-beta-la from profeolytic divestion and subsequent abolition specification; it was created using information provided polymer containing a polyalkylene alycol, the composition has enhanced activity, measured by an antivital assay, as compared to physioladically active IPN-bots. The polymer IPN botals conjugate has the ability to stay in the vasculature for longer periods of time, has increased (IFN betala) protein. The protein is used to produce a composition comprising a digossylated HTM beta complete to a non-naturally occurring AAY84950-64 represent alanine mutants of human interteron beta la

Sequence 166 AA;

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RESULT 7
AAY 7 OB 84
ID AAY 7
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The DEI moutant displays both activity is lower than activitie activities but its antiproliferative activity is lower than activital activity and both antivital and antiproliterative activities are lower relative to receptor binding, compared to the wild type sequence. The mutant is used to produce IRN-bota fusion proteins. Note: The present sequence is not shown in the specification but is derived from wild type human IEN-beta sequence found in page 6.
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The present sequence is a human interferon-beta alumine substituted mutant DEI generated by mutating residues in the DE Loop of wild type sequence.
The Ala/Ser substituted mutants: IFM beta baring substitutions.
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The fusion protein is useful for inhibiting and orenesis in a patient.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      I MSYRLADITAGATRIA TAKATMATARI NIBERYITERAMNIR HAREFALI (1914-1914) ATERAMI HY FO
                                                                                                                                                                                                                                                                                                                                                                                           1186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Samilarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LESS AA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   13 OF STATE OF STATE OF
                                                                                                                                                                                   STANCE.
                                                                                                                                                                                                                                                                                                                             84CA 0445553
                                                                                                                                                                                                                                                                                                                                                                                           8203 0475008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       820S 5475058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 859: 08-4: Length 166;
Pred. No. 3.5e-70;
0: Mismatches 2: Ludels
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RESULT 10
AAP50279
<u>:</u>
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Matches 164: Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     polypeptide by transformed bacteria. The pret, promoter-operator is trp which controls expression of structural genes encoding polypeptides of a synthetic pathway forming tryphophan, esp. at a concerns of structural expression of a synthetic pathway torming tryphophan, esp. 10-100). The transformed bacteria are esp. E.coli contq. the plasmid p-beta-1-trp. Example 1 concerns the construction of plasmid p-beta itrp for the direct expression of IFW beta under the control of trp promoter-operator.
                             Disclosure: Fig 20: 96pp: English
                                                                                                                            New modified beta interferon(s) - useful as antivital.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAP50279 standard; protein; 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI, 1985 055962/09.
N PSDB; AAN50289.
                                                                                           anti-neoplastic and immuno modulatory agents
                                                                                                                                                                                                        N-PSDB; AAN50406
                                                                                                                                                                                                                                                                                                                                                                                (SEAR ) SEARLE G D & CO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-JUL-1983;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28 - JUN - 1984;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         23-JAN-1985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EP131816-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Protein sequence encoding synthetic interferon-beta dene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      09-DEC-1991 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Polypeptide, esp. interferon, productly transformed bacteria cultured in presence of a repressor which is consumed during
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Interferon-beta; virueide; antitumor; immunostimulant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The inventors claim a process for the prodm. of beterologous
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Example: Fiq 5; 12pp: English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12. BURKEY TOKE LEHELEKAKE ESHFAKKA TA KYGELKRI EKERKETOYEKN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61. EMIGNORALITY/1968/1988 F. I VENN CANAVINGUNIO F. VICH ESCIPTION OF STROSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     09. ALTIVWIPPAGAGANA PROFESHINDENNY, KERIKUNTANTANTANTANTANTANTENNYANA PERENTANTANTAN PERENTANTANTAN PERENTANTAN PERENTAN PERENTANTAN PERENTANTAN PERENTANTAN PERE
                                                                                                                                                                                                                                      1985-020165/04
                                                                                                                                                                                                                                                                                                           Boseley PG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 166 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                               83GB - 0017880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        84EP-0107498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98.5%; Score 859; DB 6; Length 166;
98.8%; Pred. No. 3.5e-70;
ative 0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                       Smith Je.
                                                                                                                                                                                                                                                                                                           Houghton M:
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RENGLI II
AARIG 107]
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                       Oxido. resistant mutcin(s) - prepd. by replacing oxido. susceptible methionine with conservative aminoacid
                 Claim 5; Page 50; 50pp; English
                                                                                                                                                                       WPI; 1986-239075/37
                                                                                                                                                                                                                       Koths KE, Halenbeck RE,
                                                                                                                                                                                                                                                                                                                                                                   18-JAN-1985;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   % Misc-difference 17 ^{\prime\prime} May be N terminal truncated or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Misc-ditterence 1..6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              03-OCT-2002 (updated)
28-MAY-1991 (first entry)
                                                                                                                                                                                                                                                                                   (CETU ) CETUS CORP.
                                                                                                                                                                                                                                                                                                                                           05-AUG-1986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Misc-difference 117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Misc-difference 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     oxidation resistant mutein of Interferon-Beta
                                                                                                                                                                                                                                                                                                                                                                                                                            17-DEC-1985;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  17-JAN-1986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31-JUL-1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AU8652451-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Misc-difference 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               lL-2; IFN: Beta; colony stimulating factor; CSF-1; tPA; hGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAP61071;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAP61071 standard; Protein; 166 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The sequence encodes a synthetic interferon-beta which has increased biological activity compared to matural IFN-beta, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     which is more effective in the treatment of viral or neoplastic dispases, or immunosuppressed or immunodeficient conditions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 HIKPYYJFILHYIKAKEYSHCAWTIVBVEJIRNFYEINELTGYLEN 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121 HIKRYYGRILHYIKAKEYSHOAWTIVRVEILRNEYRINELTGYLEN 155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 EMLQNIFA1FRQDSSSTGWNETIVENLLANVYHQINHLKTVLEEKLEKEDFTRGKIMSSL 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 EMILONIFAIFRODSSSTOWNETTIVENILLANVYHOINHLETVI FEWLEKEFETETALMSSL 2.79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MSYNCLIGHTORSSNEDOOKLLWOLNGKLEYCLKDRMNEDTBEETROLOOFOREFAALTIY 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MSYNLLGELQRSSNEQCOKITMOLNGRLEYCLXDRMNPDIPEETKQLQQEQXEDAALTIY 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           166 AA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                              8508-0692596.
                                                                                                                                                                                                                                                                                                                                                                                                                            85US-0810656
                                                                                                                                                                                                                                                                                                                                           8608-0893186
                                                                                                                                                                                                                                                                                                                                                                   86AU-0064846.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  86AU-0052451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note: "May be any conservative AA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note= "May be any conservative AA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /mote "May be any conservative AA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /moto= "May be any conscreative AA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    98.8%;
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                                                                                                                                                                                                                          linnis MA;
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Pred. No. 3.5e-70;
0: Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 166;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ladals
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 12
Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                  Sequence
                                                                                                                                            The inventors claim an interleron conjugate wherein a C-terminal of
the region exhibiting biological activities of interferon-beta has
been linked to an N-terminal of the region exhibiting biological
                                                                                                                                                                                                                                             Conjugates of interferon(s)-beta and-mamma - useful as antivirals and anti-cell proliferatives with broader spectrum of activity and obtd. economically by recombinant DNA procedures
                                                                                              conjugate was tested using FL cells-sindbis virus system according to the CPE 50 inhibition method. Antiviral activity ranged from
                                                                                                                                                                                                                 Claim 7; p35; 52pp; English.
                                                                                                                            activities of interferon-gamma. The antiviral activity of the
                                                                                                                                                                                                                                                                                                                     WPI; 1987-258309/37.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Modified peptide has residues susceptable to chloramine T and peroxide oxidation replaced with conservative AAs. Mutein is thus resistant to oxidisation, other proteins which may be similarly rendered resistant include tissue plasminogen activator, colony stimulating factor and human growth factor.

(Opdated on 03-ccT-2002 to add missing CS field.)
                                                                                    200 m/ml
                                                                                                                                                                                                                                                                                                                                                      Tanaka T,
                                                                                                                                                                                                                                                                                                                                                                                    (TORA ) TORAY IND INC
                                                                                                                                                                                                                                                                                                                                                                                                                       26-DEC-1986;
                                                                                                                                                                                                                                                                                                                                                                                                                                       14-MAR-1986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10-MAR-1987;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16-SEP-1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EP237019-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Antiviral; antiproliferative agent.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence of interferon-beta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        07-JUN-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAP70296:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAP70296 standard; protein; 166 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121 HLKRYYGPILHYCKAKEYSHCAWTTVPVEILENFYFINELTGYLEN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 HIKRYYGRILHYLKAKEYSHCAWTIVKVEILKNEYRINRLTGYLRN 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 EMLÜNIFALFRUDSSSTGWNETTVENLLANVYHOINHLKTVLEEKLEKEDFTRUKLMSSL 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 EMLQNIFAIFRQDSSSTGWNETIVENLLANVYHJINHLKIVLEEKLEKEDFTBGALMSSL 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MSTRICTEZASSNEZAZKIGMZINGKSETCIKIERNRETIPEKIKOLQOFQKEDAALTIY 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       i MSYNLLAFIQRSSNEQCQKITMQINGF.EYCIKDBMNEDIPEEIKQIQQFQKEDAALTIY 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        164, Conservative
                                                                                  to 18500 U/ml.
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61 EMIQNIFATERQÜSSSEĞİNE, TVENILANVEHÇINHEN IVLEENLEKEDE IRĞALMSSE 120
61 EMIQNIFATERQÜĞSELÜMEFIVENLI ANVERÇİNHEN EVLEFE EREBERÇİKLMESEL 120
                                                                                                                                                61 EMIGNIFATERODSSSTOWNETTVENILLANVYHOTNHLKTVIDEKLEKEDFTRGALMSST 120
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RESULT 14
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                                                                                      treatment, remission or attenuation of a disease state, physiological condition, symptoms or etiological factors, or tor their evaluation of diagnosis. The IFN betala polymer conjugates may also be used to prophylaxic or treatment of any condition of diagnosis at the boundaries for which the
                                                                                                                                                                     conditions such as tibrosis, lupus and multiple sclerosis. These may also be used in the treatment of viral diseases, as well as in the treatment of indiceptic diseases. IFN betala is useful as an agent for the
                                                                                                                                                                                                                              stability in solution, reduced immunodenicity, protection of the modified FN-beta-la from proteolytic diaestron and subsequent abolition activity, and increased thermal stability. The polymer based conjugates are useful tor trealing tumors and cancer, as well as autoimmune
                                                     IFN-betala constituent is efficacions, in biological systems or specimens, note: the present sequence does not appear in the
                                                                                                                                                                                                                                                                                                             polymer containing a polyalkylene glycol. The composition has enhanced activity, measured by an antiviral assay, as capared to physiologically active IFN beta. The polymer IFN-betalla conjugate has the actility to stay in the vasculature for longer periods of time, has increased
                                                                                                                                                                                                                                                                                                                                                                                   AAY84950-64 represent alamine mortants of human interferon beta la (IFN-betala) protein. The protein is used to produce a composition comprising a diycosylated IFN-beta coupled to a non-naturally occurring
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New dlycosylated interferon beta-la coupled to a non-naturally occurring polymer containing a polyalkylene glycol useful to: treating c.g. tumors, autoimmune disorders, viral intertions and angioaccuic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Misc difference 189
                                     specification; it was created using intormation provided
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example 1, Page
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pepinsky в,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (BIOJ ) BIOGEN INC.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alanine mutant of human interferon beta la protein.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16 OCT-1998;
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Best Local Similarity 98.8
Matches 164: Conservative
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                                                                                                   Whitty A.
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                                                                                                   Bunkel I..
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Search completed: May
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 98,5%;
Best Local Similarity 98,8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 It may also be used to treat multiple selerosis, tibrosis, inflammatory and autoliment diseases, caseers, legatitis and wital intection characterised by newspas-larisation. The present sequence is a human interferon-beta alamine substituted mutant DE2 generated by mutating residues in the DE loop of wild type sequence. The Albysis sateritime intracts of 1934-beta basine substitutions in holices A. B. C. P. or E. or loops AB. Cherrib were assessed for receptor binding and functional activities of antiproliferative activities. The mutant having desired characteristics is used to produce IEN-beta tusion proteins.

Note: The prosent sequence is not shown in the specification but is derived from wild type human IEN beta sequence tound in page 46 (AAY70871).
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Pred. No. 3.5e-70;
1; Mismatches 1;
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#### SUMMARIE

N⊖.	Score	Match	Match Length DB	BU	10	Description
	3.58	0.001	997	<u>ا</u> د	US 09 932 658 24 /	Sequence 24, Appl
~	859	98.5	166	œ	-09-971	7,
يد	859	98.5	183	\$	US-09 832 659 4	Sequence 4, Appli
مث	85°G	98.5	183	ت	08-09-832-658-2	Sodieno D. Aprili
yr.	55.8 82.8	98.5	187	9	US-10-004-201-2	sequence 2, Appli
5	65B	98.5	187	φ	US-09 919 612A 9	Sequence 9, Apple
7	855	98.5	187	10	US-09-788-552-1	Sequence 1, Appli
α	87.4	98.5	500	٥	16-130-623-5	sodiones i' Vbb.:
¥	875	98.2	187	0.1	US-04-927-850-7	Sequence 7, Appli
10	458	ند 1 1	16.6	٠.;	0.07 J86 L00 5.	Software C. Appli
1	850	97.5	418	ټ	US-09-832-659-42	`
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17	779	89.3	166	12	US-09-832-658-26	
18	744.5	ρ Γ 	. 1:	٥	1.5 U.J. 83.7-1.28 L.J. S.L.	5
19	339.5	38.9	447	10	US-09-756-283A-22	1.0

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Coquence 2. Appli	Sequence 1, Appli	Sequence 7, Appli	Sequence 2, Appli	Sequence 4, Appli	Sequence 2, Appli	Sequence 2. Appli	Sequence 9, Appli	Sequence 12, Appl	Sequence 44, Appl	Sequence 4. Appli	Sequence 4. Appli	Sequence 2, Appli	Sequence 40, Appl	Sequence 17, Appl	Sequence 86, Appl	Sequence 86, Appl	Sequence 2. Appli	Sequence 1, Appli	Sequence 29, Appl	÷	Serguence 27, Appl	Sequence 8, Appli	Grapher 21. Appl	Sequence 5, Appli	Sequence 20, Appl

## ALIGNMENTS

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IIS OF RECORDS 45 Applification IIIS 00002658
Sequence 24, Applification IIIS 00022658
[Fig. 1] Fig. 1 of 1 of III 022002021765A1
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; ORGANISM: human
(g.60.872.459.24
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Best Local Similarity 100.0%; Frad. No. 2.6e-80;
Matches 166; Conservation 0; Mismatches 0; Indols 0; Caps
                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: FastSEO for Windows Version 4.0 SEO ID NO 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT PILING DATE: 2001-04-11
CURRENT PILING DATE: 2001-04-11
FRIDE APPLICATION MUMBER: 0-0-104,572
PRIOR FILING DATE: 1998-10-16
PRIOR APPLICATION MUMBER: 60/120,161
PRIOR FILING DATE: 1999-02-16
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: BIOGEN, INC. APPLICANT: Foglish, Inc. APPLICANT Buckel, Lacardian APPLICANT References
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Fatent No. USZOOZO155547A1
CENERAL INFORMATION:
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                                   destable Areas
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Conklin, Darrell C.
APPLICANT: Grant, Francis J.
APPLICANT: Riven, Mark
APPLICANT: Kindsvagel, Wayne
IIILE OF INVENIION: Interferon epsilon
FILE REFERENCE: 98-4601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION NOMBER: USZOGZRR2,650 CURRENT FILLING DATE: 2001-04-11
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CHRRENT FILLING DATE: 2001-10-04
PRICE APPLICATE: NUMBER: 60/101/012
PRICE FILLING DATE: 1998-09-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    009 971 843 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: 60/104,491 PRIOR FILING DATE: 1998-10-16
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: BIOGEN, INC.
LITLE OF INVENTION: Interferon Bota Pusion Proteins and Uses
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PRIOR FILLING DATE: 1999-09-16
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38.8%
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Score 859; DB 9; Length 183;
Prod. No. 5.96-79;
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; Patent No. US20020169290A1
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Publication No. US20030021765Al
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FILE REFERENCE: A064PGI
CURRENT ADDITION OF ROMBEE: US/200/842,658
CURRENT FILING DATE: 2001-04-11
PRIOR APPLICATION NUMBER: 60/104.572
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APPLICANT: Rasmussen, Poul Haad
APPLICANT: Pedersen, Anders Hielholt
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APPLICANT: Popinsky, Blake
                                                                             FILE REFERENCE:
                                                                                                                                           TITLE OF INVENTION: NEW MULTIMERIC INTERFERON BETA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Bornaes, Claus
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PRIOR APPLICATION NUMBER: 60/120,161
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CURRENT APPLICATION NUMBER, 60/1 /604.201
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FILE REFERENCE: P1248201 (replacement)
CURRENT AFFLIANT N PUMBER 78,000,0019,622A
CURRENT FILLING DATE: 2001-07-30
FRIOK APPLICATION NUMBER: US 09/202102,
FRIOK FILLING DATE: 1999-03-04
PRIOK FILLING DATE: 1999-03-04
PRIOK FILLING DATE: 1998-12-03
NUMBER OF SEQ IC NOS: 12
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: Patent No. US2002017
: GENERAL INFORMATION:
: APPLICANT: Chen, Ji
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                                                                                                                                                                                                                                             Corry March 98.5%: Score 859; DB 9; Length 187; Hest Local Similarity 98.8%, Fred. No. 6.1e 79; Marches 194: Conservative 0; Mismatches
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Patent No. US/20020172660A1
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APPLICANI: Godowski, Paul
APPLICANI: Wood, William I.
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FRICK APPLICATION NUMBER: US 60/245,645
PRICK FILLING DATE: 2000-11-02
NUMBER OF SEC ID NOS: 49
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ILITE OF INVENTION: HUMAN INTERFERON EPSILON: A TYPE I INTERFERON
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                                                                                                                     61 FMIQNIFALERODSSSIDWNFILVENFLANVYHOLNHLETVLEEKLEKEDFTEGALMSSL 120
                                                                                                                                                             82 EMIQNIFATERQDASSTOWNETTVENTTANVENTUHLKTVLEEKLEKEDETEOKLMSSI. 141
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                                                                              82 EMIGNIFATERODSSSTGWNFTTVENLLANVYHOINHLKTVLEEKLEKEDFTRGKLMSSL 141
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TITLE OF INVENTER, Interferon Reta Fasion Proteins and Uses
FILE REPERENCE: ADSAPCISES
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US-09-832-659-2
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                                                                                                                                                                                                                                                                                                   SEQ ID NO 2
LENGTH: 399
                                                                                                                                                                                                                                                                                                                                                                                  CURRENT FILING DATE: 2001-04-11
PRIOR AFFLICATION MOMBER, 60/120.257
PRIOR FILING DATE: 1999-02-16
PRIOR APPLICATION NUMBER: 60/104.451
PRIOR FILING DATE: 1998-10-16
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                                                                                                                                                  Matches 164;
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PRIOR APPLICATION NUMBER: EF 30 44 005 €.7
PRIOR FILING PATE: 2009-02-23
PRIOR AFFELICATION HOMSER: U2 00/246,089
PRIOR FILING PATE: 2009-11-07
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                                                                                                                                                                                         Query Match
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                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQ ID NOS: 44
                                                                                                                                                                                                                                                                                                                                           SOFTWARE: PatentIn Ver. 2.0
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ORGANISM: Homo sapiens
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                                                                                                                                                                                                                                                                                TYPE: PRT
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                                                            1 MSYNLLGFLORSSNEQCOKILMQIJEKELYCLKERDAHFTEEFEKQLQQFQKEDAALTTY 60
. Ne CEMATION:
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Patent No. US/20020187147A1
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SEQ 1D NO 7
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                                                                                                                                                                                                           PRIOR FILING DATE: 2000 11 07
NUMBER OF SEC ID NOS: 4
S-FTWARE: Patentin version 3.1
                                                                                                                                                                                                                                                                                                  CHREER ANTILIALIAN NOMBER, US COCCOR ES.
CHREEN FILLNE LALE: 2001 08:28
PETOR APPLICATION NUMBER; EP 00 44 0053.7
PETOR FILLNE DATE: 2000 02:23
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COURRENT FILING DATE: 2001-08-10
DEFOR APPLI ALION NUMBER: 09/724,860
ERTOR FILING DATE: 2000-11-28
DRIOR APPLI ATION NUMBER: 60/169,720
ERTOR FILING DATE: 1599-12-08
                                                                                                                                                                                                                                                                                                                                                                                          11 788 COL
                                                                                                   OBCANISM: Homo sapiens
                                                                                                                                                                                                                                                                             PRIOR APPLICATION NUMBER: US 60/246, 089
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FILE OF INVENTION: Interferon Like Molecules and Uses Thereof
FILE REFERENCE: 99, 62, F
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                                                                                                                                                TABE: PRI
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| GROANISM: Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        [2] HLKBYYGHGGHYGKAKEG SB'AWG CKKYETLERFFFROIRKG SYLKN 186
  / Match 97.7%; Score 852; DR 10; Length 166; Lecal Similarity 98.2%; Pred. No. 2.6e-78; ess 163; Conservative 0; Mismatches 4; Indels
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                                                                      SEQ ID NO 44
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                                                                                                            PRIOR FILING DATE: 1998-10-16
NUMBER OF SEQ ID NOS: 44
                                                                                                                                                       PRIOR APPLICATION NUMBER: 60/104,491
                                                                                       SOFTWARE: Patentin Ver. 2.0
ORGANISM: Homo sapiens
                                            LENGTH: 423
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; Butent No. USLOGLOTS5:47A1; GENERAL INFORMATION:
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APPLICANT: DIRECTOR
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: Patent No. US20020155547A1
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                                                                                                                                                                                                                                       Sequence 44, Application US/09832659
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CURRENT APPLICATION NUMBER: US/09/842,659
CURRENT FILING DATE: 2001-04-11
PRIOR APPLICATION NUMBER: 60/120/247
PRIOR FILING DATE: 1999-02-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches 163; Conservative
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PRIOR APPLICATION NUMBER, 60/120, 237
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FILE REFERENCE: A064PCTSEQ
CURRENT APPLICATION NUMBER, US/09/842,659
                                                                                                       TITLE OF INVENTION: Interferon Reta Fusion Proteins and Uses File REFERENCE: \Delta 064 \, \mathrm{Perse_Q}
                                                                                                                                                             APPLICANT: BIOGEN,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION NUMBER: 60/104,491
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SOFTWARE: Patentin Ver. 2.0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR FILING DATE: 1999-02-16
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US-03-82-658-28

(Sequence 2), Application (S.2008)21765A1

(Publication No. US2003)021765A1

(GENERAL INFORMATION

APPLICANT: BIOSEN, INC.

APPLICANT: BIOSEN, INC.

APPLICANT: Runkel, Laura

APPLICANT: Brickelmain: Mangat
             APPLICANT: BIGGEN, INC.

APPLICANT: FPE HISKY, FPEN,

APPLICANT: Runkel, Laura

APPLICANT: Bricke, region and applicant: Whitty, Adrian

APPLICANT: Hochman, Paula

FITTE OF INVENTION Polymor Conjugates of Interferon Beta-1a

FITTE OF INVENTION: and Uses

FITTE REFERENCE: AONSPET

CURRENT FILING DATE: 2001-04-11

FREE APPLICATION NUMBER: 60/104,572
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Patent No. US20020068362A1
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File REPERENCE: 4-40921M/SYS
CHREEN ACTIONALISM NUMBER: US/95/72*,443
CHREEN FILING LATE: 2000 11-29
NUMBER: FISCUID NOS: 7
SOFTWARE: Patentin version 3.1
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PRIOR FILING DATE: 1998-10-16
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 HLKRYYGRILHYLKAKHYSHOAWTIVRVEILRNFYRINRLTGYLRN 166
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Local Similarity 95.2%: Pred. No. 6.4e-75;
bes 158: Conservative (; Mismatches 7; Indols 0; Gaps
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APPLICANT: BIOGEN, INC.
APPLICANT: Propinsky, Blake
APPLICANT: Propinsky, Blake
APPLICANT: Brickelmaier, Margot
APPLICANT: Brickelmaier, Margot
APPLICANT: Whitty, Adrian
APPLICANT: Whitty, Adrian
APPLICANT: Hochman, Paula
TITLE OF INVENTION: and Uses
FILE REFERENCE: A065000
CURRENT AFFLICATION HUMBER, US/05/6-32.658
CURRENT AFFLICATION HUMBER, US/05/6-32.658
PRIOR APPLICATION HUMBER, US/05/6-32.658
PRIOR APPLICATION HUMBER, US/05/6-32.658
PRIOR APPLICATION HUMBER, US/05/6-32.658
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Sequence 27, Application US/09832658
Publication No. US/0030021765Al
GENERAL INFORMATION:
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121 BILKBYYGBILBYIKAAAYSHCAWTIVEVEILFMFYEIMRUIGYLKN 166
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61 EMEGNIFATI FROMSSSTOMNASI VAALLENYTHOLIH HILLIH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 EMEQNIFATERODSSSTOWNETIVENELANVAHQIAHLAAVI FEKLEKFUFTKOALMSSE 120
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Query Match Best Local Similarity	) ORGANISM: buman US-09-832-658-24	LENGTH: 166 TYPE: PRT	SET ID NO 24	NUMBER OF SEQ ID NOS: 29	PRIOR APPLICATION NUMBER: 60/120, 15. PRIOR FILING DATE: 1999-02-16	PRIOR FILING	TRICK APPLICATION NUMBER, 60/104,572	CURRENT FILING DATE: 2001-04-11	CURRENT APPLICATION NUMBER: 00/09/832,658	LOdS900V - duNadadad dila	TITLE AT INVENTION: and Uses	TITIE OF INVENTION Polymon Conjugates of Interferon Beta	APPET TAKET	Man CANE	AFFILISANI. I	: TEAVOL DARK	APPLICART I	APPET PART   BI	TEMESAL INFOMATION.	MAGERBOOK TO LATER THE TRANSPORTER TO THE TRANSPORT	RESULT 1	
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                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/19/157,068 CURRENT FILING DATE: 1998-09-18 NUMBER OF SEQ. ID NOS: 17
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                                                   09 157 068 7
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TILLE OF INVENTION: Interferon epsilon
FILE REFERENCE: 98-46
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APPLICANT: Francis J. Grant
APPLICANT: Mark W. Rixon
                                                                                                                                                                 SOFTWARE: FastSEQ for Windows Version 3.0
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CHERENI FILING DATE: 1998-07-14
EARLIER APPLICATION NUMBER: 60/052/516
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NUMBER OF SEQ 1D NOS: 41
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    98.5%; Score 859;
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DB 15; Length 166;
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US-09-350-232-7
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US-09-245-293-7
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                                                                                                                                                                            NUMBER OF SEQ ID NOS: 25
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 7
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GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                    APPLICANT: Grant, Francis J.
APPLICANT: Rixon, Mark W.
APPLICANT: Rixon, Mark W.
APPLICANT: Rindsvoqel, Wayne
TITLE OF INVENTION: Interferon epsilon
FILE REFERENCE: 98-46
CURRENT APPLICATION HOMBER, 30,707,750,232
CURRENT FILING DATE: 1999 07-08
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APPLICANT: Grant, Francis J.
APPLICANT: Rixon, Mark W.
APPLICANT: Rindsvogel, Wayne
TITLE OF INVENTION: INTERFERON EPSILON
FILE REFERENCE: 98-46X2
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CURRENT FILING DATE: 1999-02-05
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                                      ORGANISM: Homo sapiens
                                                                                                                                 LENGTH: 166
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US-19-45/2-941-5
7 Sequence 5, Application US/0946/2941
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                                                                                                                                                                                                                             GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 164; Conservative
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Best Local Similarity 98.8%;
                                                                                FILE REPERENCE: 127-65050

**OTHERMY AFFICIANTLY NUMBER, 78/79,484,532B

**CURPENT FILING TOATE: 2000-02-22

**IRIOR APPILINATION NUMBER: BOT TO THE TOTAL FROM HEROP FILINATION TO TOAR OA OF
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EKIOR FILING DATE: 1997-94-28
NUMBER OF SEQ ID NOS: 22
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APPLICANT: otto, Bernd
APPLICANT: Waschutza, Gero
APPLICANT: Waschutza, Gero
APPLICANT: Fraumhoter-Gesellschaft zur Foerderung der Angewan
Tille of INVENTION: Buman Forometnach Bergelgferforce With Improved
Tille of INVENTION: Solubility
Elle Beference: 127-65050
                                         PRIOR APPLICATION NUMBER: 60/052.516
PRIOR FILING DATE: 1997-07-14
NUMBER OF SEQ ID NOS: 41 SOFTWARE: Patentin Ver.
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ORGANISM: Homo sapiens
04-402-5(2p-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           151 NATISTITAN FARMATHANAN LINN, HEALAWATAH HANAKATIN 171
                                                                                                                                                                                                                                                                                                                                                                  121 HIKRYYGPILHYLKAKEYSHCAWTIVPVFILPNEYFINELTGYLEN 166
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001 OSSKTVOJEJJEGA (AGGIALA HRKIČHANDY IRGALIJANMOLSSSIČAJIVATNOMA 19
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Pred. No. 4.6e-80;
0; Mismatches 2; Indels
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; ORGANISM: Homo sapieus
; 08G462-941-5
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                                                                                                                                                                                                                                                                                                                                                                                 sequence 2, Application US/09569722 GENERAL INFORMATION:
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SEQ ID NO 1
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                               PRIOR FILING INTE: 1999-05-12
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1971: St (AMERICA), HOTZI, HOTZICA AZUS AZUS ESTUDIE WITH THIBETUSCH BEGA
1971: OF INVENTION: ACTIVITY
1971: ALEI-ALBIA ASSOCIATION (NEW) NEW
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NUMBER OF SEC ID NOS:
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TYPE: PRT
RCANISM: Homo sapiens
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                                                            NUMBER OF SECTIONS: 38
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IIILE OF INVENTION: NOVEL DIEER ACTIVITY
FILE REFERENTE A 58055 1 181 1845 804
CURRENT APPLICATION DATE: 2000 05 11
PPICK APPLICATION DUMBER: US 60/13/785
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                                                                                                                              FILE REFERENCE: 2wo2
                                                                                                                                         APPLICANT: Maryrem \Delta p^{\infty} [HILE OF INVENTION: New Interferon Heta-like Molecules
                                          SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR FILLING DATE: 1999-05:12
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Fred: W.: 1.6c 85.
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; Sequence 16, Application HS/09732436
; GENERAL INFORMATION:
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SEQ 1D No 16
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                                                                                                                        TITLE OF INVENTION: Novel Polypeptides and indynactionides Exceding Same FILE REPREENCE: 1596-615
CURRENT APELICATION NUMBER: 05/05/742/436
CURRENT FILING DATE: 2001-05-14
PRIOR APPLICATION NUMBER: 60/169/887
PRIOR APPLICATION NUMBER: 60/169/887
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CUPPENT APPLACA: DAN NUMBER: 05,755,648,569A
                                                PRIOR FILING DATE: 1999:12-10
NUMBER OF SEQ ID NOS: 26
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APPLICANT: Shimkets, Richard A
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                          SOFTWARE: Patentin Ver. 2.1
                                                                                                     PRIOR APPLICATION NUMBER: 60/170,230
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ORGANISM: Homo sapiens
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ORGANISM: Homo sapiens
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Local Similarity 98.8%; Pred. No. 4.6e-80;
tes 164; Conservative 0; Mismatches 2
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US-09-732 446-16
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                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                             Sequence 95294, Application US/09791547
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Matches 164: Conservative
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Best Local,
                APPLICANT: Biohomix, Inc.
APPLICANT: Debe, Derek
APPLICANT: Debe, Derek
APPLICANT: Debe, Derek
APPLICANT: Debe, Derek
APPLICANT: Debe, DIMENSIONAL STRUCTURES OF PROTEIN FAMILIES AND FAMILY MEMBE
TITLE OF INVENTION: METHODS OF USE THEREOF
FILE REFERENCE: 261/210
CURRENT APPLICATION NUMBER: US/09/791,537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: 60/170.230
PRIOR FILING DATE: 1999-12-10
NUMBER OF SEV ID NOS: 26
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APPLICANT: Shimkets, Richard A
TITLE OF INVENTION: Novel Polypeptides and Polynucleotides Encoding Same
FILE REFERENCE: 15965-615
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CURRENT FILING DAIE:
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Local Similarity 98.5%; Score 859; DB 21; Length 166;
Local Similarity 98.6%; Pred. No. 4.6e-80;
hes 184; Conservative 0; Mismatches 2; Indels
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Scarch completed: May  $6,\ 2003,\ 10:00:59$  Job time :  $142.5\ secs$ 

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Pending Nucleic Acid and/or Pending Amino Acid database searches now generate two sets of results. These databases were split into to two parts to reduce the time needed to update the databases daily. The split freed up more machine time for processing searches.

Searches run against the Nucleic Acid Pending database produce two sets of results, with the extensions, .rnpm and .rnpn
Searches run against the Amino Acid Pending database produce two sets of results, with the extensions, .rapm and .rapn

The Pending database search results should not be left in the case because they contain data that is confidential.